

In the United States Court of Federal Claims

No. 04-74C

c/w 04-75C

(E-Filed: March 30, 2010)

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)	
PACIFIC GAS & ELECTRIC COMPANY,)	
)	Trial Decision on Remand;
Plaintiff,)	Damages for Government's
)	Partial Breach of Contract to
v.)	Accept Spent Nuclear Fuel;
)	Mandate Rule
THE UNITED STATES,)	
)	
Defendant.)	
)	
)	

Jerry Stouck, Washington, DC, for plaintiff. Robert L. Shapiro, Maggie Sklar, and Danielle Diaz, Washington, DC, and Mark H. Penskar, San Francisco, CA, of counsel.

Seth W. Greene, with whom were Tony West, Assistant Attorney General, Jeanne E. Davidson, Director, and Harold D. Lester, Jr., Assistant Director, Commercial Litigation Branch, Civil Division, United States Department of Justice, Washington, DC, for defendant. Jane K. Taylor, Office of General Counsel, United States Department of Energy, Washington, DC, and Marian E. Sullivan, James P. Connor, Lisa L. Donahue, Joseph D. Keller, Anthony W. Moses, and Scott Slater, Commercial Litigation Branch, Civil Division, United States Department of Justice, Washington, DC, of counsel.

OPINION¹

¹ The court includes an Evidence Appendix at the end of this Opinion to address orders on motions in limine that were resolved before the start of trial and other evidentiary matters. The Evidence Appendix shall be deemed an integral part of this Opinion. Testimony from the initial trial constitutes part of the record on remand in this case. Where cited in this Opinion, the trial transcript (Tr.) is distinguished from the remand trial transcript (Rem. Tr.), and the remand pretrial conference transcript (Pre. Tr.) cited in the Evidence Appendix. Abbreviations used in the Evidence Appendix are consistent with those used in this Opinion.

HEWITT, Chief Judge

I. Introduction

This case is before the court on remand for the purpose of redetermining damages in accordance with the opinion of the United States Court of Appeals for the Federal Circuit (Federal Circuit), Pacific Gas & Electric Co. v. United States (PG&E II), 536 F.3d 1282 (Fed. Cir. 2008), affirming-in-part, reversing-in-part and remanding Pacific Gas & Electric Co. v. United States (PG&E I), 73 Fed. Cl. 333 (2006). The Federal Circuit's opinion in PG&E II concluded that "the Standard Contract required [the Department of Energy (DOE)] to accept [spent nuclear fuel (SNF)/high-level radioactive waste (HLW)] in accordance with the 1987 [acceptance capacity report (ACR)] process"² and directed this court to "calculate the damages owed to PG&E for DOE's partial breach of the Standard Contract on this basis." PG&E II, 536 F.3d at 1292. The Federal Circuit also incorporated into its decision the section from its opinion in Yankee Atomic Electric Co. v. United States (Yankee II), 536 F.3d 1268 (Fed. Cir. 2008), that discusses "the requirements of the Standard Contract with respect to [greater-than-class-C (GTCC)] waste" and directed this court to "account for GTCC waste disposal on remand." PG&E

² In its opinion, the United States Court of Appeals for the Federal Circuit (Federal Circuit) appears to use "ACR process" and "ACS process" interchangeably. See Pac. Gas & Elec. Co. v. United States (PG&E II), 536 F.3d 1282, 1285-86, 1289-92 (Fed. Cir. 2008). ACR refers to the annual capacity reports that the Standard Contract requires DOE to issue, while ACS stands for "acceptance capacity schedule," a term coined by the Federal Circuit. See id. at 1285-86. By using the terms "ACS process" or "ACR process," the Federal Circuit referred to the entire process as described below:

In lieu of a firm rate for SNF/HLW acceptance and disposal, the Standard Contract required DOE to issue annual capacity reports (ACRs) beginning no later than July 1, 1987. These reports set forth projected annual receiving capacity for DOE facilities and annual acceptance rankings, including projected capacity information for the first ten years of operation for the repository. In addition to the annual reports, the Standard Contract also required DOE to issue annual acceptance priority rankings beginning April 1, 1991. In response to these priority reports, the Standard Contract obligated each utility to submit a delivery commitment schedule [(DCS)] to DOE to identify the SNF/HLW ready for delivery to DOE beginning sixty-three months after the DCS submission. This court refers to this entire process as the acceptance capacity schedule or ACS process.

Id. (emphasis added). In this Opinion, the court uses the term "ACS process" to avoid confusion.

II, 536 F.3d at 1292-93.

On remand, the court conducted four and one-half days of trial and heard the testimony of ten witnesses³ in October of 2009. In addition to the trial record, the court

³ The witnesses testified with apparent candor and completeness. For convenient reference, the names, in alphabetical order, and descriptions of the witnesses upon whose live testimony the court relies in this Opinion follow:

Mr. John P. Albers testified as a fact witness for plaintiff. Remand Trial Transcript (Rem. Tr.) 272:2-400:19, Oct. 15, 2009; 410:2-11, Oct. 16, 2009. Mr. Albers has been employed by Pacific Gas & Electric Company (PG&E) since 1998 as the radiation protection manager at the Humboldt Bay power plant. Rem. Tr. 272:21-273:5. Before working at Humboldt Bay, Mr. Albers worked at the San Onofre Nuclear Generating Station, the Palo Verde Nuclear Generating Station, the Columbia Generating Station (previously called the WNP2 station), and the Institute of Nuclear Power Operations. Rem. Tr. 274:7-11, 275:11-23, 276:4-8, 277:3-7, 278:15-18.

Mr. Frank C. Graves testified as an expert witness for plaintiff. Rem. Tr. 44:13-271:5, Oct. 15, 2009. Mr. Graves holds a Master Degree in Management, with a concentration in Finance, from the Massachusetts Institute of Technology. Rem. Tr. 45:16-19. He is a partner in the Brattle Group, where, among other matters, he has worked as a financial analyst and energy economist on matters related to the electric and natural gas industries. Rem. Tr. 51:25-52:3, 53:24-54:8, 61:12. The court qualified Mr. Graves as an expert in “energy economics; electric utility industry customs, practice, and model[ing]; and competitive markets in energy services.” Rem. Tr. 72:24-73:4.

Mr. David G. Huizenga testified as a fact witness for plaintiff. Rem. Tr. 619:25-677:18, Oct. 16, 2009. Mr. Huizenga is employed by the Department of Energy (DOE) and worked in the Office of Environmental Management at DOE from 1992 to 2002. Rem. Tr. 620:13-15, 620:21-621:2. During his tenure as Deputy Assistant Secretary in the Office of Environmental Management, Mr. Huizenga had responsibility for greater-than-class-C (GTCC) waste, among other matters. Rem. Tr. 621:3-19.

Mr. R. Larry Johnson testified as an expert witness for defendant. Rem. Tr. 1501:16-1563:12, Oct. 21, 2009. Mr. Johnson is a Certified Public Accountant, Rem. Tr. 1504:12-14, and the chairman and CEO of Veris Consulting, LLC (Veris). Rem. Tr. 1502:18-25. Veris is a consulting firm that focuses principally on “financial analysis, financial measurements, outsourcing of financial resources, support in the context of litigated matters, forensic accounting, and those types of financial analyses.” Rem. Tr. 1503:1-7. The court qualified Mr. Johnson as an “expert in the areas of financial analysis, cost accounting, auditing, and analyses of economic damages.” Rem. Tr. 1517:2-5.

Mr. William Jones testified as an expert witness for defendant. Rem. Tr. 1132:15-

1351:19, Oct. 20, 2009. Mr. Jones is a consultant with ABZ, an “engineering or technically based firm.” Rem. Tr. 1133:6-16. Before becoming a consultant, Mr. Jones worked at the Yankee Rowe power plant, the Electric Power Research Institute, the Yankee Atomic Electric Company corporate headquarters, and the Maine Yankee power plant. Rem. Tr. 1136:10-15, 1138:5-10, 1139:14-20, 1145:2-5. He has over forty years of experience in the commercial nuclear industry, including experience in “direct operations at the plant, engineering in support of the plant and . . . decommissioning of the plants.” Rem. Tr. 1135:24-1136:7. The court qualified Mr. Jones as an “expert in segmentation of commercial nuclear reactor internals, cask handling for radioactive waste and spent nuclear fuel, and radioactive waste packaging, storage and disposal.” Rem. Tr. 1172:18-24.

Mr. Richard Locke testified as a fact witness for plaintiff. Rem. Tr. 871:17-907:5, Oct. 19, 2009. Mr. Locke was in-house counsel for PG&E, retiring in 2006 after twenty-nine years with the company. Rem. Tr. 872:4-17. While employed with PG&E, Mr. Locke’s “principal area of responsibility was nuclear power plant licensing and regulatory matters.” Rem. Tr. 872:16-19.

Mr. Gregory Maret testified as an expert witness for defendant. Rem. Tr. 1352:9-1453:4, Oct. 20, 2009; 1461:2-1500:25, Oct. 21, 2009. Mr. Maret is employed by Sequoia Consulting Group, performing “primarily senior management, executive and technical type of consulting within the nuclear business.” Rem. Tr. 1353:23-1353:6. Before becoming a consultant, Mr. Maret worked for the Yankee Atomic Electric Company and Vermont Yankee Nuclear Power Corporation. Rem. Tr. 1354:8-1355:12, 1356:5-10, 1374:21-1375:1. The court qualified Mr. Maret as an expert in “nuclear power plant operations and management, including management of safety risks,” “decommissioning planning, cost management and execution,” “management of deconstruction of structures at nuclear power plants,” and “management of the handling and storage of GTCC waste in transfer to dry storage.” Rem. Tr. 1394:5-14.

Dr. Jonathan Neuberger testified as an expert witness for defendant. Rem. Tr. 954:25-1063:16, Oct. 19, 2009; 1070:13-1131:23, Oct. 20, 2009. Dr. Neuberger holds a Ph.D. in Economics from Johns Hopkins University and is a principal with Economists Incorporated, a consulting firm. Rem. Tr. 955:15-19, 956:16-20. The court qualified Dr. Neuberger as an expert in “matters of economics, quantification of economic harm, economic modeling, the economics of risk and uncertainty, and econometrics.” Rem. Tr. 976:12-18.

Mr. Larry Womack testified as a fact witness for plaintiff. Rem. Tr. 410:22-618:22, Oct. 16, 2009. Mr. Womack was employed by PG&E for more than twenty-five years before he retired in 2004. Rem. Tr. 412:4-8. Prior to retiring, Mr. Womack served as Vice President of Nuclear Services for ten years. Rem. Tr. 411:11-18. In that role, he had “direct responsibility for the Diablo and Humboldt [independent spent fuel storage installation (ISFSI)] projects, nuclear engineering, nuclear field procurement, licensing, at times quality assurance, information technology, and other large projects being undertaken by the PG&E nuclear division.” Rem. Tr. 411:19-412:3.

has considered extensive post-trial briefing.⁴ In light of the Federal Circuit's ruling, the court applies the 1987 ACR rate in determining the scope of DOE's performance obligation to accept PG&E's spent fuel and GTCC waste under the parties' contract. See id. The court's analysis therefore focuses on whether the costs claimed as damages by PG&E were incurred as a direct and reasonably foreseeable result of defendant's partial breach of the contract. Based on this analysis, the court will enforce DOE's performance obligation to accept PG&E's spent fuel and GTCC by determining to a reasonable certainty the total amount of damages to be awarded plaintiff for defendant's partial breach of contract.

II. Costs Incurred by PG&E as a Direct Result of DOE's Breach of the Standard Contract

A. Standards for Establishing Damages for Partial Breach of Contract

"The remedy for breach of contract is damages sufficient to place the injured party in as good a position as it would have been had the breaching party fully performed." Ind. Mich. Power Co. v. United States (Ind. Mich.), 422 F.3d 1369, 1373 (Fed. Cir. 2005). An injured party may only recover damages for breach of contract where it has met its burden of proving that: "(1) the damages were reasonably foreseeable by the breaching party at the time of contracting; (2) the breach is a substantial causal factor in the damages; and (3) the damages are shown with reasonable certainty." Id. (citing Energy Capital Corp. v. United States, 302 F.3d 1314, 1320 (Fed. Cir. 2002)); see also id. at 1376 ("[Plaintiff] must prove foreseeability, causation, and reasonableness."). The amount of contract damages "need not be 'ascertainable with absolute exactness or mathematical precision.'" Id. at 1373 (quoting San Carlos Irrigation & Drainage Dist. v. United States (San Carlos), 111 F.3d 1557, 1563 (Fed. Cir. 1997)); see also Restatement (Second) of Contracts § 352 cmt. a (1981) ("Damages need not be calculable with

Mr. David Zabransky testified as a fact witness for defendant. Rem. Tr. 691:10-864:14, Oct. 19, 2009. Mr. Zabransky is the chief operating officer for the Department of Energy's Office of Civilian Radioactive Waste Management, handling financial matters in addition to acting as the contracting officer for contracts with the utility companies. Rem. Tr. 692:5-693:8. Prior to becoming the chief operating officer, Mr. Zabransky was a contracting officer responsible for administering the Standard Contract on behalf of DOE, the position he held when he testified at the initial trial. Rem. Tr. 692:22-693:8. Prior to becoming a contracting officer, Mr. Zabransky held the positions of nuclear utility specialist and, from 1996 to approximately 2002, contracting officer's technical representative. Rem. Tr. 694:3-22.

⁴ Part IV of the Evidence Appendix provides a discussion of the court's consideration of deposition designations filed by the parties.

mathematical accuracy and are often at best approximate.”). However, “recovery for speculative damages is precluded.” Ind. Mich., 422 F.3d at 1373 (citing San Carlos, 111 F.3d at 1563).

“[W]hen damages are hard to estimate, the burden of imprecision does not fall on the innocent party.” LaSalle Talman Bank v. United States, 317 F.3d 1363, 1374 (Fed. Cir. 2003). However, “the non-breaching party is not entitled, through the award of damages, to achieve a position superior to the one it would reasonably have occupied had the breach not occurred.” Id. at 1371. Accordingly, “[t]o derive the proper amount for the damages award, the costs resulting from the breach must be reduced by the costs, if any, that the plaintiff[] would have experienced absent a breach.” Bluebonnet Sav. Bank, F.S.B. v. United States, 339 F.3d 1341, 1345 (Fed. Cir. 2003).

Once plaintiff has established to a reasonable certainty that the damages it alleges were the foreseeable result of, and caused by, the government’s partial breach of the Standard Contract by failing to accept and dispose of utilities’ spent fuel beginning on January 31, 1998, the burden shifts to defendant to prove that such damages “‘could have [been] avoided by reasonable efforts.’” Ind. Mich., 422 F.3d at 1375 (quoting Robinson v. United States, 305 F.3d 1330, 1333 (Fed. Cir. 2002) (quoting Restatement (Second) of Contracts § 350 cmt. b (1981))); see also Tenn. Valley Auth. v. United States, 69 Fed. Cl. 515, 523 (2006) (“[T]he government bears the burden of showing that TVA’s mitigation efforts were unreasonable.”). In determining whether plaintiff’s efforts to mitigate its damages caused by the government’s partial breach of the Standard Contract were reasonable, the court bears in mind that plaintiff “is ‘not precluded from recovery . . . to the extent that [it] has made reasonable but unsuccessful efforts to avoid loss.’” Ind. Mich., 422 F.3d at 1375 (quoting Restatement (Second) of Contracts § 350 cmt. b) (alteration in original). “[O]nce a party has reason to know that performance by the other party will not be forthcoming, . . . he is expected to take such affirmative steps as are appropriate in the circumstances to avoid loss by making substitute arrangements or otherwise.”” Id. (quoting Restatement (Second) of Contracts § 350 cmt. b)).

B. PG&E’s Claimed Damages

Plaintiff has alleged damages through December 31, 2004⁵ in six categories: (1) costs incurred related to the evaluation of storage options and the licensing and construction of an independent spent fuel storage installation (ISFSI) and temporary racks

⁵ In a previous opinion in this case, the court established that December 31, 2004 is the date through which plaintiff may seek damages in this case. Pac. Gas & Elec. Co. v. United States, 70 Fed. Cl. 758, 766 (2006).

at its Diablo Canyon power plant; (2) costs incurred for maintaining its Humboldt Bay power plant in custodial SAFSTOR status after 1998; (3) costs incurred in the licensing and construction of an ISFSI at its Humboldt Bay plant; (4) incremental costs of removing the ventilation stack at its Humboldt Bay plant while spent fuel continued to be stored in the spent fuel pool; (5) evaluation of Private Fuel Storage (PFS) off-site storage options for both plants; and (6) internal and external legal costs related to the activities contained in the other categories. The parties do not dispute the amount of the damages in each category but rather whether PG&E is entitled to certain of the damages it claims.

1. Undisputed Costs

On remand, the government does not dispute certain of PG&E's claimed damages: "Assuming that damages are calculated using the acceptance rates set forth in the 1987 Annual Capacity Report ('ACR'), we acknowledge that PG&E is entitled to recover approximately \$82 million of its approximately \$92 million in damages claims on remand." Defendant's Memorandum of Contentions of Fact and Law (Def.'s Pretrial Br.) 1 (citing Corrected Joint Status Report (Corr. JSR) 2, Docket Number (Dkt. No.) 398, filed on July 30, 2009). In the Corrected Joint Status Report, defendant stated its position:

Defendant contends that, assuming that the rates contained in the 1987 Annual Capacity Report ("ACR") constitute the Department of Energy's ("DOE") acceptance obligation under the Standard Contract, PG&E is entitled to recover on remand the following costs: (1) Humboldt Bay SAFSTOR costs from 2000-2004, in the amount of \$38,678,000; (2) Humboldt Bay ISFSI costs in the amount of \$7,945,000; (3) Diablo Canyon ISFSI costs in the amount of \$31,734,000; (4) Diablo Canyon temporary rack costs in the amount of \$2,663,807; and (5) Diablo Canyon Storage Options study costs in the amount of \$1,451,091.

Corr. JSR 2. As plaintiff correctly notes, the government conceded and did not dispute at the remand trial that, under the 1987 acceptance rates, PG&E is entitled to recover the costs listed above and described in greater detail below. See PG&E's Remand Post-Trial Brief (Pl.'s Post-Trial Br.) 1-2, 6, 26.

a. Humboldt Bay SAFSTOR Costs from 2000 through 2004

The parties do not dispute that PG&E is entitled to recover the costs, amounting to \$38,678,000, incurred for maintaining its Humboldt Bay power plant in custodial SAFSTOR status from 2000 through 2004. See Corr. JSR 2; Pl.'s Post-Trial Br. 6 (citing Joint Exhibit (JX) 2, at 1; Plaintiff's Exhibit (PX) 746). Because PG&E had allocations

for DOE pickup of its SNF at Humboldt Bay in 1998 and 1999 under the parties' Standard Contract, DOE would have removed the SNF in 1999 at the latest, making continued SAFSTOR status unnecessary in the years after 1999. As the court found in its 2006 opinion, the costs PG&E incurred to maintain custodial SAFSTOR status at Humboldt Bay after the contracted date of SNF removal were incurred because of DOE's breach of the parties' Standard Contract. See PG&E I, 73 Fed. Cl. at 414. The court also found that such costs were the reasonably foreseeable result of defendant's breach and that the costs were reasonably certain. Id. at 414, 416-17. The court's analysis of plaintiff's entitlement to damages applies with equal force to the 1987 acceptance rates on remand. Plaintiff contends, however, that the application of the 1987 acceptance rates changes the probable facts on the ground in a way that increases the amount of damages to which PG&E is entitled. See Pl.'s Post-Trial Br. 6. Plaintiff does not claim that it should recover 1998 SAFSTOR costs--because the SNF would still have been present at Humboldt Bay in 1998 under any scenario. However, plaintiff does contend that the SNF would have been removed in 1998 as a result of the use of exchanges, Pl.'s Post-Trial Br. 6--a position the government disputes, Def.'s Post-Trial Br. 7--so that 1999 SAFSTOR costs were at issue during the remand trial.

b. Humboldt Bay ISFSI for SNF

PG&E claims \$9,534,000 in Humboldt Bay ISFSI costs through 2004. Pl.'s Post-Trial Br. 26. The government concedes that under the 1987 acceptance rates PG&E is entitled to recover \$7,945,000,⁶ an amount representing the costs associated with the storage of SNF only, not including GTCC. See Corr. JSR 2; Pl.'s Post-Trial Br. 26. At the remand trial, the remaining \$1,589,000 associated with the ISFSI storage of PG&E's Humboldt Bay GTCC waste was at issue. See Corr. JSR 3, 6. As the court found in its 2006 opinion, even under the 1991 acceptance rates, "absent the government's breach of the parties' Standard Contract, plaintiff would not have had to construct the ISFSI at Humboldt Bay." PG&E I, 73 Fed. Cl. at 417. The court also found that PG&E's construction of the Humboldt Bay ISFSI was the reasonably foreseeable result of defendant's breach and that the costs were reasonably certain. Id. at 418, 421. The

⁶ This figure was derived by subtracting one-sixth of the total of \$9,534,000. PG&E's Remand Post-Trial Brief (Pl.'s Post-Trial Br.) 26; see Corrected Joint Status Report (Corr. JSR) 2-3, 6. The parties agree that \$1,589,000 represents the costs associated with the ISFSI storage of PG&E's Humboldt Bay GTCC waste. See Corr. JSR 3, 6. The court had calculated comparable figures in its 2006 opinion. See Pac. Gas & Elec. Co. v. United States (PG&E I), 73 Fed. Cl. 333, 421 & n.73 (2006). On remand, PG&E has further refined the court's figures by subtracting additional support costs associated with the disallowed Taiwan earthquake study. See Pl.'s Post-Trial Br. 26 (citing Rem. Tr. 1566:2-1568:16 and Plaintiff's Exhibit (PX) 747).

court's conclusion regarding the \$7,945,000 in costs associated with the ISFSI storage of SNF at the Humboldt Bay power plant is unchanged here. Plaintiff contends that, under the Federal Circuit's opinion in PG&E II, requiring the court to "account for GTCC waste disposal on remand," 536 F.3d at 1292-93, the ISFSI storage of GTCC waste would have been unnecessary and that PG&E is entitled to damages for its costs. Pl.'s Post-Trial Br. 26.

c. Diablo Canyon

PG&E is entitled to recover all of the claimed damages from 1998 through 2004 related to its Diablo Canyon power plant. As the evidence showed, the spent fuel storage pools at PG&E's Diablo Canyon plant would not have reached capacity if DOE had performed at the 1987 ACR acceptance rates beginning in 1998. See Remand Trial Transcript (Rem. Tr.) 413:21-414:22 (Womack) (consulting PX 96, the 1987 Annual Capacity Report, and stating, "[N]either the Unit 1 nor Unit 2 pool at Diablo would have reached capacity. It would not have necessitated examination and measures to employ[] additional storage for that facility."). Under the 1987 ACR acceptance rates, PG&E had acceptance allocations for its Diablo Canyon plant beginning in 2006 and continuing through at least 2014. See Rem. Tr. 439:12-440:17 (Womack) (consulting JX 1). The allocations were sufficient such that, even under the oldest fuel first (OFF) priority queue without the use of exchanges, neither pool would have reached capacity. Rem. Tr. 446:24-454:17 (Womack); Womack Demonstrative Exhibit (Dem. Ex.) 1; Rem. Tr. 238:7-14 (Graves). As a result, PG&E would not have needed to study any additional spent fuel storage options, rerack the spent fuel storage pools, or build an ISFSI facility there. See Pl.'s Post-Trial Br. 1, 4; Rem. Tr. 455:1-8 (Womack) ("Simply put, if during the '90s, if PG&E had observed DOE preparing to accept fuel and then in 1998 had DOE beg[u]n to accept fuel, again using the nonbreach world assumption that those 1987 ACR [acceptance] rates were certain, there would have been no need to employ any additional storage solution for Diablo because the pools would not have filled."). Defendant does not dispute that PG&E is entitled to recover its claimed damages related to the Diablo Canyon power plant, consisting of: \$31,734,000 in ISFSI costs, \$2,663,807 in temporary rack costs, and \$1,451,091 in storage option study costs, for a total of \$35,848,898 in Diablo Canyon-related damages through 2004. Corr. JSR 2; Pl.'s Post-Trial Br. 1-2 (citing Corr. JSR 1-2.); see Def.'s Pretrial Br. 1 (acknowledging that "PG&E is entitled to recover approximately \$82 million of its approximately \$92 million in damages claims on remand") (citing Corr. JSR 2). Such damages can be determined to a reasonable certainty and were incurred as a foreseeable result of, and caused by, the government's partial breach of the Standard Contract.

d. Conclusion

The court finds that PG&E is entitled to damages in the amount of the undisputed costs. Plaintiff would not have incurred these costs absent the government's breach of the parties' Standard Contract, the costs were the reasonably foreseeable result of defendant's breach, and the amount of the costs have been determined to a reasonable certainty. The court therefore awards PG&E damages in the amount of: \$38,678,000 for Humboldt Bay SAFSTOR costs from 2000 to 2004, \$7,945,000 for SNF-related Humboldt Bay ISFSI costs, \$31,734,000 for Diablo Canyon ISFSI costs, \$2,663,807 for Diablo Canyon temporary rack costs, and \$1,451,091 for Diablo Canyon storage option study costs, for a total of \$82,471,898.

2. Disputed Costs

At issue on remand were the remaining, disputed damages claimed by PG&E. After acknowledging the undisputed costs that PG&E is entitled to recover under the 1987 rates, in its Pretrial Brief the government stated:

The remaining \$9.5 million in claimed costs includes: (1) HBPP "SAFSTOR" costs from 1999; (2) the costs that PG&E would have incurred to store its HBPP Greater-Than-Class-C ("GTCC") radioactive waste on-site during the claim period in this case; (3) PG&E's investment in the Private Fuel Storage ("PFS") initiative; (4) the costs that PG&E incurred to perform the HBPP stack removal in 1998; and (5) certain legal costs that PG&E claims for the first time upon remand in this case.

Def.'s Pretrial Br. 1-2. The government specifically listed the categories and amounts of the disputed damage claims in the Corrected Joint Status Report:

Defendant contends that PG&E is not entitled to recover the following costs from its previously filed claim: (1) Humboldt Bay SAFSTOR costs from 1999, in the amount of \$4,744,000; (2) the costs that PG&E would have incurred to store its GTCC waste on the ISFSI at Humboldt Bay during the claim period in this case, in the amount of \$1,589,000; (3) the costs that PG&E incurred associated with Private Fuel Storage ("PFS"), in the amount of \$899,517; (4) the costs that PG&E would have incurred during the claim period to perform the Humboldt Bay stack removal in 1998, in the amount of \$919,420; and (5) the legal costs that PG&E intends to claim as damages for the first time upon remand in this case, in the amount of \$1,417,662.97.

Corr. JSR 6-7. These disputed costs were the focus of the October 2009 remand trial. The court addresses each of the claimed costs in turn below.

a. Humboldt Bay SAFSTOR Costs from 1999

As described above, Part II.B.1.a, only the costs incurred to maintain the Humboldt Bay power plant in custodial SAFSTOR status for the year 1999, in the amount of \$4,744,000, were at issue on remand. See Corr. JSR 3, 6. Plaintiff contended that it would have used exchanges to move its allocation rights up in the priority queue, so that all of its Humboldt Bay SNF would have been removed in 1998. Pl.’s Post-Trial Br. 6; Rem. Tr. 17:8-18:3 (Pl.’s Opening Statement); PG&E’s Remand Pre-Trial Brief (Pl.’s Pretrial Br.) 8. Under this scenario, PG&E would not have incurred SAFSTOR costs in 1999 in the nonbreach world and it would be entitled to recover from defendant the reasonably foreseeable costs it actually incurred. See Pl.’s Post-Trial Br. 6; Pl.’s Pretrial Br. 8. Defendant argued that plaintiff was precluded from recovering the 1999 SAFSTOR costs because plaintiff did not explicitly appeal the issue of exchanges and the Federal Circuit did not explicitly instruct the court on remand to revisit the court’s prior findings regarding the use of exchanges in the nonbreach world. Defendant’s Post-Trial Brief (Def.’s Post-Trial Br.) 7 n.2; Def.’s Pretrial Br. 11. Defendant further argued that plaintiff is not entitled to recover the 1999 SAFSTOR costs because the use of exchanges is too speculative and plaintiff did not carry its burden of proving that it could have or would have used exchanges. Def.’s Post-Trial Br. 2, 7, 14; Rem. Tr. 37:4-24 (Def.’s Opening Statement); Def.’s Pretrial Br. 11-16.

i. The Issue on Remand Under the Mandate Rule

In order to analyze the recoverability of the 1999 SAFSTOR costs, the court begins with an examination of the mandate rule. “[E]very appellate court judgment vests jurisdiction in the district court to carry out some further proceedings. . . . [T]he nature of the district court’s remaining tasks is discerned not simply from the language of the judgment, but from the judgment in combination with the accompanying opinion.” Exxon Chem. Patents, Inc. v. Lubrizol Corp. (Exxon Chem.), 137 F.3d 1475, 1483 (Fed. Cir. 1998) (citing In re Sanford Fork & Tool Co., 160 U.S. 247, 256 (1895) and Laitram Corp. v. NEC Corp. (Laitram), 115 F.3d 947, 952 (Fed. Cir. 1997)). The general rule is that a trial court is “free to take any action that is consistent with the appellate mandate, as informed by both the formal judgment issued by the court and the court’s written opinion.” Exxon Chem., 137 F.3d at 1484. Upon return of the appellate mandate, the trial court “cannot give relief beyond the scope of that mandate, but it may act on ‘matters left open by the mandate.’” Laitram, 115 F.3d at 951 (citations omitted). “[T]he district court’s actions on remand should not be inconsistent with either the letter or the spirit of the mandate.” Id. The interpretation of an appellate court’s mandate is a question of law, reviewable de novo on appeal. Id. at 950-51 (“It offends common sense, moreover, to suggest that we [the appellate court] must defer to what a trial judge inferred about our intent in what we wrote.”). The trial court must therefore do its best to interpret the

appellate mandate and conduct remand proceedings consistent with the appellate mandate, while recognizing that the appellate court may reach a different interpretation of its own mandate on appeal. See Engel Indus., Inc. v. Lockformer Co., 166 F.3d 1379, 1383 (Fed. Cir. 1999) (“We, of course, remain mindful that the interpretation of the scope of a court’s mandate may be uncertain.” (citation omitted)); Laitram, 115 F.3d at 951 (noting that the appellate court “appreciate[d] the dilemma in which the [trial] court found itself on remand”).

Here, the Federal Circuit instructed the court on remand “to calculate the damages owed to PG&E for DOE’s partial breach of the Standard Contract on th[e] basis [‘that the Standard Contract required DOE to accept SNF/HLW in accordance with the 1987 AC[S] process’].” PG&E II, 536 F.3d at 1292. In reaching its conclusion, the Federal Circuit held that the 1987 ACS process “provides the best available pre-breach snapshot of both parties’ intentions for an acceptance rate.” Id. The Federal Circuit rejected the 1991 acceptance rate used by this court in its original trial opinion because “the linkages imposed by the 1987 Amendments presented the specter of an impending breach . . . [that] necessarily tainted the 1991 report.” Id. at 1291. According to the Federal Circuit, in 1991, “DOE’s timely performance of its full contractual obligations had, by then, already become a distant possibility.” Id. The Federal Circuit stated that “the most accurate picture of the parties’ intent for this contract is their conduct at a time when both parties still anticipated timely and full performance of the contract,” id. at 1290-91, and determined that the appropriate time was in 1987 because “both the DOE and the nuclear utilities realistically expected that DOE would accept SNF/HLW on schedule,” id. at 1291.

For the purposes of this case on remand, the Federal Circuit’s opinion moved the relevant time period in which to examine the parties’ intentions and conduct regarding the Standard Contract from 1991 to 1987, four years earlier. On remand, the court therefore must not only apply the 1987 acceptance rates but also must consider evidence bearing on the parties’ conduct and intentions in 1987, rather than in 1991, where applicable, in order to “calculate the damages owed to PG&E for DOE’s partial breach of the Standard Contract” in light of the Federal Circuit’s opinion. See id. at 1290-91, 1292.

At the initial trial, the court was not persuaded by the evidence that PG&E would have used the exchanges provision to reduce its SNF storage costs. In its trial opinion, the court stated: “While the court does not doubt ‘[t]hat a market would develop around the exchange provision of the Standard Contract,’ the preponderance of the credible evidence adduced at trial does not indicate that PG&E would have used the exchanges provision, or how it would have used it.” PG&E I, 73 Fed. Cl. at 413 (citation omitted). In the initial trial, the court had granted defendant’s motion to exclude the expert testimony of Mr. Graves from trial. Id. at 435. The court found that Mr. Graves’

testimony would not be “more helpful to the court on the issue of DOE’s rate of acceptance than that of the numerous percipient witnesses directly involved in the nuclear waste disposal program and with PG&E who would be heard--and indeed were heard--in this case.” Id. at 436. The court also found that “Mr. Graves’ hypothetical model of a market for exchanges of utilities’ DCSs was too speculative to be helpful to the court in its resolution of this case.” Id.

The Federal Circuit “detect[ed] no abuse of discretion” in this court’s decision to exclude Mr. Graves’ testimony, stating that “Mr. Graves’ lack of involvement with the DOE waste acceptance program gave the Court of Federal Claims a reasonable basis for excluding his testimony.” PG&E II, 536 F.3d at 1292. The Federal Circuit explicitly “d[id] not address at all the trial court’s assessment that Mr. Graves’ testimony would have been speculative” and “note[d] . . . that Mr. Graves did testify in other proceedings before the Court of Federal Claims.” Id. Specifically, the Federal Circuit “s[aw] no difficulty in the decision of the Court of Federal Claims to accept Mr. Graves’ testimony in Yankee I.” Id. (referring to the trial court’s opinion in Yankee Atomic Elec. Co. v. United States (Yankee I), 73 Fed. Cl. 249, 299-303 (2006)).

On remand, the Federal Circuit instructed this court “to calculate the damages owed to PG&E for DOE’s partial breach of the Standard Contract on th[e] basis [‘that the Standard Contract required DOE to accept SNF/HLW in accordance with the 1987 AC[S] process’].” PG&E II, 536 F.3d at 1292. In the court’s view, the establishment of the rate of acceptance and the admonition to consider evidence of the parties’ conduct and intentions in 1987 greatly reduced the uncertainty in Mr. Graves’ model, such that his testimony regarding the market for exchanges was helpful to the court in its resolution of this case on remand. When the parties’ behavior and intentions are considered from the perspective that, in 1987, the nonbreach world operates on the assumption of performance by DOE in accordance with the terms of the Standard Contract and the ACS process, Mr. Graves’ testimony is not speculative, but rather provides a reasonable description of a readily imaginable part of the business environment in which PG&E would have been functioning during the eleven years between 1987 and 1998 as it anticipated the pickup of its fuel at Humboldt Bay. Further, the Federal Circuit has instructed that “parties to a contract agree to perform fully, not partially,” id., so that, in the nonbreach world, PG&E is entitled to the benefits of full government performance under the Standard Contract, including the exchanges provision. As described more particularly below, the preponderance of the credible evidence adduced at the remand trial indicates that a market would have developed around the exchanges provision of the Standard Contract and that PG&E would have used the exchanges provision to avoid SAFSTOR costs in 1999 at its Humboldt Bay power plant.

ii. Causation, Foreseeability, Reasonable Certainty

Under the 1987 ACR acceptance rates, PG&E had sufficient allocations in years 1998 and 1999 that all of its Humboldt Bay SNF would have been picked up by DOE no later than 1999. Rem. Tr. 466:2-467:7 (Womack) (“[The allocations for 1998 and 1999] cover all 390 assemblies at Humboldt Bay.”); see Joint Exhibit (JX) 1 (calculating that PG&E had allocations of 13.18 MTU in 1998 and 15.76 MTU in 1999).⁷ PG&E would have had approximately 16 MTU of SNF remaining at the Humboldt Bay power plant to be picked up in 1999. Rem. Tr. 136:6-20 (Graves). Through the use of exchanges, PG&E, to a reasonable certainty in the nonbreach world, would have arranged for all of its SNF to be picked up in 1998, thereby avoiding SAFSTOR costs in 1999.⁸

⁷ The Federal Circuit held that the “1987 ACS process” established the acceptance rate required under the Standard Contract. PG&E II, 536 F.3d at 1289-92 (discussing the ACS process and possible acceptance rates before concluding that “[t]he 1987 AC[S] process therefore provides the best available pre-breach snapshot of both parties’ intentions for an acceptance rate”). As the parties noted in their explanation of their Joint Exhibit (JX), the 1987 ACR does not by itself provide the information necessary to calculate PG&E’s acceptance allocations for the relevant years. See JX 1, at 1, 2 (page numbers not provided in original). Under the Standard Contract, DOE is also required to issue acceptance priority rankings (APRs), which reflect the utilities’ discharged spent fuel. JX 1, at 1; see also PG&E II, 536 F.3d at 1286. The first of these APRs was not issued until April 1, 1991, as required under the Standard Contract. JX 1, at 1; see also PG&E II, 536 F.3d at 1286. The 1987 ACR “only reflects ‘data on SNF discharges available through December 1985 and [p]urchaser projections of future SNF discharges . . . ,’ while the subsequently-issued APRs reflect actual discharges and the most recent available data on when fuel assemblies were last discharged from a reactor.” JX 1, at 1 (quoting PX 96 (1987 ACR)). In the 1991 APR, DOE published actual discharge information, which differed from the projections found in the 1987 ACR. JX 1, at 2. Another APR was published in 2004, which extended the actual discharge information provided in the 1991 APR. See JX 1, at 2. Although there are minor differences between the discharge information contained in the 1991 and 2004 APRs, the 2004 APR provides more recent SNF discharge information that permits the court to project PG&E’s SNF/HLW allocations through 2014. JX 1, at 2. The parties therefore applied the 2004 APR discharge data to determine the amounts of SNF/HLW that DOE was obligated to accept from PG&E pursuant to the 1987 ACR, represented in table form in the Joint Exhibit. JX 1, at 2-3. The court finds this to be a reasonable method of determining PG&E’s acceptance allocations for the years 1998 through 2014. By applying the 1987 ACR rates to actual discharge data, even though the data were not available until 2004, rather than to incomplete and inaccurate projections from the 1987 ACR, the parties have effectively re-created the allocations PG&E would have received in the nonbreach world.

⁸ Because the court finds that plaintiff established by a preponderance of the evidence that it would have used exchanges to avoid incurring 1999 SAFSTOR costs, the court does not address in detail plaintiff’s additional contention that it could have used the DOE shutdown priority provision to achieve the same result. Plaintiff acknowledged that it “has not relied heavily on the Standard Contract’s [shutdown priority] provision,” devoting a single, half-page

Plaintiff established by a preponderance of the evidence that it would have used the exchanges provision to ensure that all of its SNF was picked up in 1998, and that defendant's partial breach of the Standard Contract therefore caused plaintiff to incur SAFSTOR costs of \$4,744,000 in 1999. Testimony on remand indicated that PG&E would have been incentivized to use exchanges and that allocations would have been available for exchange. By exchanging its 1999 allocation rights for 1998 allocation rights, PG&E would have avoided SAFSTOR costs of approximately \$5 million in 1999. Rem. Tr. 467:16-22 (Womack). PG&E would have been influenced by the expectation of regulatory agencies that utilities will minimize costs to ratepayers. Rem. Tr. 467:22-468:5 (Womack) ("The expectation in general, I believe, of state regulatory agencies, but in this case certainly of the California Public Utilities Commission, is to minimize costs to rate payers, reducing costs to rate payers by, again, nearly \$5 million, would have been the direction PG&E would have taken."). In addition, PG&E had entered into an agreement with joint intervenors in its Humboldt Bay license amendment application, which obligated PG&E to make efforts to move up in the SNF acceptance queue. Rem. Tr. 468:6-469:25 (Womack) (reading PX 104: "Licensee further agrees to reasonably pursue the highest DOE priority for the removal of the Humboldt Bay Power Plant Unit 3 spent fuel assemblies."). Combining the 1998 and 1999 SNF pickups into one trip also would have been more efficient and less costly for PG&E, Rem. Tr. 470:14-471:2 (Womack), and would have allowed PG&E to begin decommissioning the Humboldt Bay power plant earlier, Rem. Tr. 473:15-474:5 (Womack).

Testimony established that PG&E would have identified potential exchange partners from available information and analyzed what it should pay for an exchange based on what storage costs would be avoided. Rem. Tr. 473:13-18, 475:1-476:21 (Womack) (describing how PG&E would have identified, categorized, and contacted potential utilities exchange partners). Likely exchange partners would have been utilities

paragraph in its post-trial brief to this argument. Pl.'s Post-Trial Br. 25. Without citing any direct testimony, plaintiff contended, "The [c]ourt should find that, absent exchanges, ['the clear benefits to both PG&E and DOE, of removing all spent fuel from Humboldt Bay in a single acceptance campaign'] would have led PG&E to seek, and DOE to provide, shutdown priority to PG&E for the 16 MTU of spent fuel that otherwise DOE would have to return to Humboldt Bay to pick up separately in 1999" Pl.'s Post-Trial Br. 25-26. Defendant argued that plaintiff should be barred by the mandate rule from relying upon the shutdown priority provision for the first time on remand. Def.'s Post-Trial Br. 28. Defendant also argued that "PG&E failed to establish that DOE was required to grant priority to [Humboldt Bay's] SNF, or how the employment of the priority for shutdown reactors provision would have accelerated the acceptance of that SNF." Def.'s Post-Trial Br. 28. It is unnecessary for the court to resolve this dispute.

with 1998 allocations in excess of their SNF needs, e.g., plants with excess capacity in their spent fuel pools or dry storage facilities, and recently shut-down plants with SNF that had not yet cooled for the five-year period required for DOE pickup. Rem. Tr. 475:5-24 (Womack); see PX 54 (Standard Contract) at App. E ¶ B.3 (“The minimum cooling time for fuel is five (5) years.”). PG&E would have been able to obtain the necessary information on potential exchange partners from publicly available sources. Rem. Tr. 475:25-476:21 (Womack) (identifying nuclear industry forums and documents and reports in the public domain as likely and sufficient sources). Mr. Graves used publicly available data to determine that, under the 1987 rates, there were sixteen utilities that collectively had 752 MTU of 1998 allocations in excess of their respective spent fuel storage needs. Rem. Tr. 136:21-138:6 (Graves). Twelve of these sixteen utilities each had more than sixteen MTUs of excess allocations--the amount needed by PG&E to avoid SAFSTOR costs in 1999 at its Humboldt Bay power plant. Rem. Tr. 137:13-24 (Graves). Even if some of these utilities had decided not to participate in exchanges or DOE had not been willing to approve certain proposed exchanges, PG&E more likely than not would have found a utility willing to accept PG&E’s 1999 allocations in exchange for 1998 allocations. See Rem. Tr. 151:6-21, 159:21-161:11, 162:2-25 (Graves).

Given the small quantity of allocations PG&E needed in comparison with the large amount of storage costs it could avoid, PG&E would have been willing to pay a high enough price to prevail in a competition among bidders for 1998 allocation rights. Rem. Tr. 138:7-139:21 (Graves). Plaintiff was not required, as defendant contended, Def.’s Post-Trial Br. 8, 12, to present evidence of specific exchange partners with whom it would have negotiated or of specific exchanges that would have occurred. See Locke v. United States, 283 F.2d 521, 524 (Ct. Cl. 1960) (“The defendant who has wrongfully broken a contract should not be permitted to reap advantage from his own wrong by insisting on proof which by reason of his breach is unobtainable.”). In providing proof of damages, plaintiff need not always specify particular transactions that would have occurred but for the breach. See Energy Capital Corp., 302 F.3d at 1329 (affirming damage award for breached agreement for lender to provide loans without evidence of which loans would have been made); Ace-Federal Reporters, Inc. v. Barram, 226 F.3d 1329, 1333 (Fed. Cir. 2000) (approving damages for breach of transcription contract without evidence of specific proceedings the reporters would have transcribed but for the breach); Locke, 283 F.2d at 524-25 (approving damages for breach of a typewriter repair contract without evidence of specific machines plaintiff would have repaired.). Plaintiff established by a preponderance of the evidence that it would have used the exchanges provision to ensure that all of its SNF was picked up in 1998, and that defendant’s partial breach of the Standard Contract therefore caused plaintiff to incur SAFSTOR costs of \$4,744,000 in 1999.

The use of the exchanges provision was foreseeable to the parties at the time of

contracting. Testimony on remand indicated that the parties intended for the exchanges provision of the Standard Contract to be used. The exchanges provision was recommended by numerous commenters on the draft Standard Contract. See Defendant's Exhibit (DX) 2.02 (final rule adopting the Standard Contract) at 16,592; Trial Transcript (Tr.) 162:21-163:4 (Mills) (stating that Edison Electric Institute (EEI) and many other electric utilities had requested that DOE include an exchanges provision in the Standard Contract). DOE agreed to include the exchanges provision. See PX 47 (April 8, 1983 Memorandum from Robert Morgan to DOE Secretary entitled "Final Rulemaking on Standard Contract for Nuclear Waste Disposal" (Morgan Memorandum)) Tab D, at 1 ("The majority of utilities commented that they should have 'exchange' or 'swapping' rights After consideration, aside from some complex recordkeeping, this poses no great problem to us, and consequently, we have accepted this suggestion."). In fact, the inclusion of the exchanges provision was the only change proposed by the utilities that DOE accepted. Compare PX 36 (draft Standard Contract) with DX 2.02 (final Standard Contract).

The utilities believed the exchanges provision would afford them greater flexibility and improve the overall efficiency of SNF pickup. Tr. 163:5-23 (Mills) (describing efficiency and flexibility as reasons why Edison Electric Institute suggested adding the exchanges provision to the Standard Contract). Allowing utilities to combine SNF allocations into fewer pickups, known as "campaigns," through exchanges--rather than adhering to a strict OFF schedule--would result in fewer DOE trips and fewer disruptions to utility operations. Tr. 163:5-23, 243:1-11 (Mills); Rem. Tr. 822:13-17 (Zabransky) (agreeing that campaigns allow for "more efficient transportation operations by both DOE and the utilities than acceptance on an Oldest Fuel First basis"); Rem. Tr. 459:3-460:8 (Womack) (agreeing that campaigns would have been more efficient for PG&E and DOE). Under the Standard Contract, DOE retained sole discretion to approve exchanges. DX 2.02 at 16601 ("Purchaser shall have the right to exchange approved delivery commitment schedules with parties to other contracts with DOE for disposal of SNF and/or HLW; provided, however, that DOE shall, in advance, have the right to approve or disapprove, in its sole discretion, any such exchanges."). In the nonbreach world, the parties are expected to act with good faith in performing under the Standard Contract and DOE is expected to exercise its discretion reasonably. The evidence confirmed that it was DOE's intent to act reasonably in approving exchange requests. See PX 47 (Morgan Memorandum) Tab D, at 1 ("[Exchanges] will require our approval, and we intend to be reasonable."). Given the small quantity of allocations PG&E needed in order for all of its SNF to be removed in 1998, it was foreseeable to DOE that PG&E would use exchanges to consolidate pickup of its Humboldt Bay SNF. The preponderance of the credible evidence adduced on remand, together with relevant evidence from the initial trial, indicates that the parties intended for the exchanges provision of the Standard Contract to be used and that PG&E's use of the exchanges provision was reasonably foreseeable.

As discussed in Part II.B above, the parties do not dispute the amount of the damages but rather whether PG&E is entitled to recover the damages it claims. The parties agree that the costs incurred by PG&E to maintain the Humboldt Bay power plant in custodial SAFSTOR status for the year 1999 can be determined to a reasonable certainty-- the amount of \$4,744,000. The parties disagree as to whether, if the court awards plaintiff its 1999 Humboldt Bay SAFSTOR costs, the court should offset the damages awarded by the amount that plaintiff would have paid for the exchanges.

In its original trial opinion the court noted that “if the court were to increase plaintiff’s damages by advancing its position in the acceptance queue using hypothetical exchanges, without finding the amount plaintiff would have paid for such exchanges and consequently reducing plaintiff’s damages by such amount, plaintiff potentially would receive a windfall.” PG&E I, 73 Fed. Cl. at 413 n.67. Plaintiff argued that the testimony at the remand trial demonstrated that PG&E could have paid nothing for the exchanges it needed, Pl.’s Post-Trial Br. 13-14, and that even if it would have paid something to exchange its 1999 allocation rights, these are deferred costs not properly subtracted at this time, Pl.’s Post-Trial Br.16. Defendant argued that plaintiff failed to establish the price it would have paid for the exchanges, Def.’s Post-Trial Br. 9-10, and that the exchange costs are distinguishable from other deferred costs because it is not clear plaintiff will incur exchange costs in the future, Defendant’s Response to Plaintiff’s Remand Post-Trial Brief (Def.’s Reply Br.) 6-7. Defendant asserted that Mr. Graves’ testimony provided the only estimate of the price PG&E would have paid to exchange its 1999 allocation rights, and that the estimate varied from approximately \$700,000 to \$1,000,000. Def.’s Reply Br. 6; Def.’s Post-Trial Br. 9-10; see also Pl.’s Reply Br. 6 (asserting that PG&E presented “testimony from Mr. Graves regarding how much PG&E would have paid (had any payment been necessary)”; Rem. Tr. 136:14-20, 139:22-140:6 (Graves) (estimating the cost to PG&E to be about \$700,000); Pl.’s Dem. Ex. Graves-1, at 37 (showing sensitivity analyses of Humboldt Bay exchange costs ranging from \$400,000 to \$1.5 million, with \$700,000 representing the exchange cost under the base case analysis).

The court credits testimony describing the generally cooperative nature of the nuclear utility industry. Rem. Tr. 465:12-19 (Womack) (“[T]he utility industry has a history of sharing . . . its resources.”); Rem. Tr. 485:10-487:18 (Womack) (explaining that “[i]t’s been commonplace in the nuclear industry to share quality assurance audit personnel” and that “utilities within the nuclear industry provide a form of mutual aid and supply radiation protection technicians for outage performance”); Rem. Tr. 143:4-145:22 (Graves) (“[T]he utility industry routinely and . . . predominantly returns to cooperative trading mechanisms to solve problems where they have costs that affect each other.”). However, the court finds it unlikely that PG&E would have received the exchanges it sought at no cost. See, e.g., Rem. Tr. 143:4-145:22 (Graves) (describing the various other

trading mechanisms developed by the nuclear utility industry as involving some cost to the buyer). Based on the credible testimony, the court also finds a lack of cooperation among utilities in the exchange market unlikely, particularly because such failure to cooperate would have resulted in higher exchange prices and would have disadvantaged an otherwise fully-functioning and efficient SNF delivery and pickup system in the nonbreach world. The court, based on the foregoing, finds that plaintiff would have paid \$700,000 to exchange its 1999 allocation rights. In response to plaintiff's contention that the costs of exchanges are "deferred," the court replies that the court is awarding damages in a but-for world. In determining those damages, the court considers the costs that it has found would have, more likely than not, been incurred.

iii. Conclusion

After evaluating plaintiff's Humboldt Bay SAFSTOR damages claim on remand, the court is able to determine to a reasonable certainty under the 1987 ACS process the damages plaintiff incurred as a foreseeable result of, and caused by, the government's breach of the Standard Contract. The court concludes that plaintiff is entitled to \$4,044,000 in damages incurred for maintaining Humboldt Bay in custodial SAFSTOR status in 1999.⁹

b. Humboldt Bay ISFSI Costs for GTCC

In its original trial opinion, the court deducted one-sixth of the ISFSI costs from the damages amount it awarded to PG&E, having determined that DOE had no performance obligation under the Standard Contract to accept PG&E's GTCC waste and that costs associated with GTCC storage represented one-sixth of the total waste storage costs at PG&E's Humboldt Bay plant. *See PG&E I*, 73 Fed. Cl. at 421 & n.73. Subsequently, the Federal Circuit ruled that the Standard Contract "include[s] GTCC within HLW" and that "the conclusions reached with respect to recoverability of SNF storage expenses are equally applicable to GTCC waste, which is stored on-site in the same manner as SNF." *Yankee II*, 536 F.3d at 1278-79 (quoting *Yankee I*, 73 Fed. Cl. at 315); *see PG&E II*, 536 F.3d at 1292-93 (incorporating the GTCC section from the *Yankee II* opinion into its decision). On remand in this case, the parties disagreed about how GTCC should be treated under the Standard Contract and 1987 "ACS process." *See* Pl.'s Post-Trial Br. 28 (quoting *PG&E II*, 536 F.3d at 1286). Plaintiff contended that its GTCC would have been ready for DOE pickup along with its SNF and that DOE would

⁹ The court calculated this amount by subtracting \$700,000, representing the estimated cost PG&E would have expended to exchange its 1999 allocation rights, from \$4,744,000, representing the costs claimed by PG&E to maintain Humboldt Bay in custodial SAFSTOR status in 1999.

have picked up both SNF and GTCC at the same time. Pl.'s Post-Trial Br. 28, 32; Pl.'s Pretrial Br. 16-17. Under plaintiff's theory, there is no reason to deduct one-sixth of the ISFSI costs from the damages award. Pl.'s Post-Trial Br. 26; see Pl.'s Pretrial Br. 15-16. Rather, PG&E is entitled to recover the full amount of \$9,534,000 in ISFSI costs. Pl.'s Post-Trial Br. 26; see Pl.'s Pretrial Br. 15-16. Defendant contended that GTCC would have been fit within the acceptance queue according to its segmentation date¹⁰ and MTU-equivalent amount, rendering the GTCC available for pickup much later than the SNF. Def.'s Post-Trial Br. 33, 36-37, 43-44; Def.'s Pretrial Br. 24. Under defendant's theory, the one-sixth amount, or \$1,589,000, should be subtracted and plaintiff is entitled to only \$7,945,000 of its \$9,534,000 in claimed Humboldt Bay ISFSI costs. Def.'s Post-Trial Br. 38-39; Def.'s Pretrial Br. 24.

i. Causation, Foreseeability, Reasonable Certainty

In Yankee II, the Federal Circuit affirmed the lower court's finding that: "The parties' intentions and actions, as revealed by [certain] documents and numerous others in the record, provide firm footing for the trial court's conclusion that 'it is very unlikely that DOE would remove all SNF without also taking plaintiffs' GTCC waste.'" Yankee II, 536 F.3d at 1278 (quoting Yankee I, 73 Fed. Cl. at 314). Here, the court reaches a similar conclusion based on a preponderance of the evidence.

The court agrees with the arguments of both parties to some extent. The Federal Circuit has held that the Standard Contract covers GTCC as HLW, just as it covers SNF. Id. at 1278-79; see PG&E II, 536 F.3d at 1292-93 (incorporating the GTCC section from the Yankee II opinion into its decision). In light of the Federal Circuit's opinion, plaintiff's argument that GTCC somehow does not fit within the acceptance queue is

¹⁰ "GTCC waste is one of the radioactive byproducts of nuclear power generation[,] . . . [created] when the metal components of a reactor, including the inside of the core shroud surrounding the nuclear core, control rods, and support plates that hold the reactor together, absorb neutrons during operation and become irradiated." Yankee Atomic Elec. Co. v. United States (Yankee II), 536 F.3d 1268, 1277 (Fed. Cir. 2008). The metal components inside a reactor are known as reactor internals, but not all of the reactor internals are classified as GTCC waste. Rem. Tr. 280:5-281:5 (Albers) ("[Reactor internals are] those structural components, those metal components which hold and support and align the fuel, keep the instrumentation in line. It's those components that essentially wrap around the fuel itself."). "Segmentation" of the reactor internals involves separating the GTCC waste from other materials and from the reactor itself in order to package the GTCC for storage or disposal. Rem. Tr. 281:6-9, 290:6-19 (Albers) ("Segmenting means to take out selected parts of the reactor internals based upon their classification as A, B, C or Greater Than Class C [w]aste, and then to prepare those segmented pieces for packaging, either for storage on-site or for disposal.").

unavailing. See Pl.’s Post-Trial Br. 36-38 (arguing that “the parties could not have intended the term ‘HLW’ to apply to GTCC waste, because such waste only became covered by the contract’s definition of HLW as a result of the [Nuclear Regulatory Commission (NRC)] rule in 1989”). Plaintiff argued that terms such as “number of assemblies,” “metric tons uranium,” and “assemblies per cask,” which are used in the Delivery Commitment Schedule and Final Delivery Schedule forms appended as party of the Standard Contract, apply “only to spent fuel and not to GTCC waste” and therefore demonstrate that “the parties intended the ACS process to apply to spent fuel and not to GTCC waste.” Pl.’s Post-Trial Br. 37. The court agrees with defendant that--had the parties understood the legal reality that GTCC qualified as HLW under the Standard Contract--DOE would have amended its forms and established MTU-equivalent measurements and discharge dates for the GTCC. See Def.’s Post-Trial Br. 42-44; Rem. Tr. 843:1-845:7 (Zabransky) (“[DOE] would have needed to modify that part of the forms [Appendix C to the Standard Contract, containing the Delivery Commitment Schedule] to address high-level waste.”). The court finds Mr. Jones’ methodology--establishing SNF-equivalent amounts for GTCC by equating packaged waste volume to packaged fuel volume--to be reasonable. See Rem. Tr.1241:19-1243:24 (Jones) (concluding that the packaged waste volume to packaged fuel volume methodology “makes a lot of sense because packaged volume is where we like to say a cask is a cask, and . . . you can equate to the equivalence of a cask in terms of the packaged GTCC waste because the amount of effort is on a per cask basis, typically, to load it and to transport it”). The methodology provides a way of determining how allocations could be used to ship GTCC, while applying equally well to different types of casks and treating utilities consistently. Rem. Tr. 1247:6-1248:4 (Jones) (providing the example that the GTCC cask from Humboldt Bay would equate to an eighty-assembly SNF cask containing 5.94 MTUs). Although the actual packaged volume of GTCC cannot be determined with certainty until after segmentation, the quantity of GTCC can be predicted prior to segmentation. Rem. Tr. 1226:16-1227:9 (Jones).

The court does not, however, agree with defendant that the appropriate discharge date for GTCC would have been the segmentation date. See Def.’s Post-Trial Br. 35-37. The Standard Contract prioritizes the ranking of SNF and HLW based upon the date of discharge of the material from the nuclear reactor. Yankee II, 536 F.3d at 1277; PX 54 (Standard Contract) Art. IV.B.5.(a), at 10 (“This priority ranking shall be based on the age of SNF and/or HLW as calculated from the date of discharge of such material from the civilian nuclear power reactor.”). Given varying utility practices related to actual fuel assembly discharge, DOE and the utilities recognized the need for a uniform method of determining “discharge date.” Rem. Tr. 779:25-781:24 (Zabransky). Prior to the issuance of the first APR, DOE and the utilities decided to rank SNF using the date of last criticality, the date when a utility’s reactor powers down and goes “subcritical.” Rem. Tr. 779:16-783:20 (Zabransky). The date of last criticality would also provide a potential

discharge date for GTCC. Rem. Tr. 786:5-22, 837:6-16 (Zabransky) (agreeing that using the date of last criticality for GTCC would be consistent with the date used for SNF). The court finds much of Mr. Zabransky's testimony helpful, but does not agree with his opinion that "the most likely [way to apply a discharge date for GTCC] would be to do it at the time of segmentation and packaging because, then, you can accurately describe what you are putting in the queue, as opposed to an estimate." Rem. Tr. 786:5-25, 787:25-788:15 (Zabransky). Other testimony established that reasonably accurate predictions of the GTCC quantity can be made before segmentation. Rem. Tr. 344:7-346:10 (Albers) (describing the engineering estimates of GTCC waste quantity provided in PX 735 and agreeing that the estimates were sufficiently accurate to allow PG&E to design and license the ISFSI container for GTCC waste); Rem. Tr. 1255:4-1258:14 (Jones) (agreeing that PG&E was able to license and design a GTCC storage container based on estimates of GTCC quantity prior to segmentation). These estimates place the amount of GTCC from the Humboldt Bay power plant at approximately seventeen cubic feet, Rem. Tr. 356:6-357:15 (Albers)--or about two feet by four feet by two feet, Rem. Tr. 611:10-17 (Womack). The court finds that these pre-segmentation estimates would be adequate for planning DOE pickup of PG&E's GTCC, such that the discharge date would, more likely than not, be defined as the date of last criticality rather than the date of segmentation.

Using the same discharge date--the date of last criticality--for GTCC and SNF would have rendered the GTCC waste eligible for pickup at the same time as the SNF, a result consistent with the Federal Circuit's ruling in Yankee II. See Yankee II, 536 F.3d at 1278 ("[I]t is very unlikely that DOE would remove all SNF without also taking plaintiffs' GTCC waste." (quoting Yankee I, 73 Fed. Cl. at 314)). In contrast, using the actual segmentation date to rank GTCC would mean that utilities with shut-down plants would be faced with the choice of segmenting reactor internals and storing the GTCC waste or accepting a later priority date for their GTCC waste. In the breach world with no DOE performance, the best course of action for shut-down plants has been to leave the reactor internals in the reactor vessel, rather than segmenting the internals and storing the resulting GTCC waste elsewhere. Rem. Tr. 499:6-13; 501:2-15 (Womack) (explaining that "earlier removal and segmentation of those internals would have necessitated identifying a place to store them . . . [and] would have resulted in additional cost"); Rem. Tr. 321:10-25 (Albers) ("There's no place to put [the segmented reactor internals]. There was no reason to segment it in the past. And one of the tenets of my profession is if you don't have a place to put it, leave it alone. . . . [T]he safest and most structurally sound place to keep it is in that reactor vessel."). Defining the discharge date for GTCC as the segmentation date would penalize shut-down utilities for adopting the reasonable cost mitigation strategy of leaving the reactor internals in place. In the breach world, PG&E's current plan is to make a final decision in the early part of the summer of 2010 as to when and how to segment and dispose of the Humboldt Bay reactor internals. See Rem. Tr.

357:16-21 (Albers). If the GTCC date of discharge were defined as the actual segmentation date, PG&E's GTCC waste would not be eligible for DOE pickup for many years after its SNF. Pl.'s Post-Trial Br. 39, 40 & n.3 ("Combined with the government's contention that DOE actually would pick up waste according to the chronological OFF acceptance priority ranking, the result under the government's theory would be that if DOE had performed in 1998, the Humboldt Bay GTCC waste would remain on site for more than 20 years after DOE removed all the spent fuel in 1998 or at the latest 1999."). With GTCC remaining on-site, PG&E would be prevented from decommissioning the Humboldt Bay power plant. See Yankee II, 536 F.3d at 1277 ("Utilities must dispose of GTCC waste before they can decommission reactor sites."); Rem. Tr. 338:21-25 (Albers) ("Part of that [decommissioning] process is to isolate the GTCC waste, so the rest of the facility can be disposed of."). In the court's view, it is highly unlikely that such a small amount of GTCC--approximately seventeen cubic feet, or two feet by four feet by two feet--would remain on-site, requiring safe storage and preventing decommissioning of the power plant for decades, while also necessitating a separate pickup from DOE. In the nonbreach world, plaintiff would, of course, have had a strong incentive to remove and segment its GTCC waste.

The preponderance of the evidence made clear that, in the nonbreach world, the Humboldt Bay GTCC would have been segmented from the reactor vessel and ready for pickup along with the SNF. As plaintiff correctly noted, after PG&E's decision in 1983 to shut down its Humboldt Bay power plant permanently, PG&E had fifteen years to segment the reactor internals and ready its GTCC waste for DOE pickup in 1998. See Pl.'s Post-Trial Br. 32. Testimony established that PG&E would have taken the necessary steps to make its GTCC waste available for pickup at the same time as its SNF. Rem. Tr. 505:9-16 (Womack). PG&E would have obtained funding from the California Public Utilities Commission for the segmentation project as part of the plant's decommissioning activities. Rem. Tr. 501:16-506:25 (Womack). PG&E was technically capable of completing the segmentation project based on experience with similar projects and the availability of qualified contracting assistance. Rem. Tr. 508:15-509:6 (Womack). Mr. Jones testified that, in the breach world, the segmentation project at the Yankee Atomic power plant was the first in the industry and encountered some substantial challenges. Rem. Tr. 1208:25-1212:2 (Jones). Still, the Yankee Atomic segmentation project was completed in less than two years, in 1993 and 1994, after the decision was made on February 26, 1992 to shut down the plant permanently. Rem. Tr. 1284:10-20, 1286:16-1287:2 (Jones). The Yankee Atomic segmentation project was conducted on a tight schedule in order to take advantage of a window of opportunity for waste disposal at Barnwell, South Carolina. Rem. Tr. 1286:8-1288:13 (Jones). PG&E was technically capable of segmenting its reactor internals as early as the 1980s. Rem. Tr. 1284:21-1285:5 (Jones). Much as Yankee Atomic was motivated to ready its GTCC for disposal at the Barnwell site, PG&E would have been motivated to segment its Humboldt Bay

reactor internals in order to make its GTCC waste available for DOE pickup in 1998. See Rem. Tr. 1292:6-18 (Jones) (agreeing that “access to a disposal site like Barnwell is the best example of a reason why a utility would want to segment its reactor internals early and promptly”). PG&E likely would have run into some challenges, as Yankee Atomic did in undertaking its segmentation project, but the court finds it more likely that not that PG&E would have been able to accomplish within fifteen years what Yankee Atomic was able to accomplish in roughly three years, as the first utility in the industry to undertake a segmentation project. See Rem. Tr. 1199:19-25, 1203:16-19 (Jones) (testifying that the presegmentation process would generally take “[u]pwards of two years” once the decision was made to segment and that the process of actual segmentation, or cutting up, would generally take “[u]pwards of a year”); Rem. Tr. 1233:7-1234:1 (Jones) (opining that it would have taken PG&E three years to complete segmentation had PG&E learned in 1989 that DOE would be accepting GTCC waste).

The testimony described how the segmentation process would likely be conducted. Rem. Tr. 317:16-318:4 (Albers) (“The three major steps in segmenting the reactor internals involve the classification of the material prior to any physical work being done, the actual physical segmenting of the pieces out of the reactor vessel, and, if necessary, additional segmentation or cutting to facilitate packaging of the material into a transportation liner, which is then placed into a cask for shipping.”). PG&E would have cut out the reactor internals and cut the resulting GTCC waste into pieces in the reactor vessel. Rem. Tr. 509:4-511:5 (Womack) (“[Cutting up the GTCC in the reactor vessel] would be--most likely it would be the most expedient, involve the lowest dose to people doing the work, and lowest cost to simply cut it there to the size that was necessary for disposal.”); Rem. Tr. 357:22-359:23 (Albers) (describing PG&E’s current preferred plan, in the breach world, to segment the GTCC in the reactor vessel). The GTCC waste pieces would have been cut small enough to be placed in the plant’s transfer cask and then moved to the spent fuel pool for packaging. Rem. Tr. 510:1-16 (Womack) (“The [GTCC] materials that would be removed, the objective would be to remove them from the [reactor] vessel and move them to the disposal cask, which in the case of Humboldt would be loaded in the spent fuel pool. The manner that you would do that would be, you would cut them into a small enough piece, either to put in a basket or to be grabbed or picked up by the fuel transfer cask at Humboldt”); Rem. Tr. 313:11-314:19 (Albers) (testifying that the inside of the transfer cask at Humboldt Bay is approximately ten inches in diameter and accommodates one spent fuel assembly at a time). Even if conducting certain of the segmentation activities in the spent fuel pool made the process more complex and costly, see Rem. Tr. 1203:24-1205:11, 1214:3-1215:1 (Jones), testimony did not establish that additional complexity and cost would have prevented PG&E from completing segmentation at Humboldt Bay prior to 1998, see Rem. Tr. 1268:5-1269:23 (Jones). Based on a preponderance of the evidence adduced at the remand trial, the court finds that PG&E would have segmented the reactor internals and

made its Humboldt Bay GTCC waste available for DOE pickup at the same time as its SNF in 1998.

The court finds that more likely than not DOE would have accepted PG&E's Humboldt Bay GTCC at the same time as its SNF under the plus/minus twenty-percent provision of the Standard Contract. Under the Standard Contract a utility has the right to vary the quantities of SNF and HLW for DOE pickup by twenty percent from the amounts on its approved Delivery Commitment Schedule before the Final Delivery Schedule is issued. PX 54 at 11, Art. V.B.2 ("Purchaser shall have the right to adjust the quantities of SNF and/or HLW plus or minus (\pm) twenty percent."); Rem. Tr. 846:22-847:19 (Zabransky) ("[The utilities] have the right to adjust it plus or minus 20 percent, prior to the submittal of the FDS, final delivery schedule."). Utilities could use the plus/minus twenty-percent provision to arrange for their GTCC to be picked up along with their spent fuel from shut-down facilities, provided that the GTCC constituted twenty percent or less of the spent fuel quantity. Rem. Tr. 846:22-847:7 (Zabransky) (agreeing that "that provision could be used for [the utilities] to adjust the DCS within th[ose] bounds, yes"). PG&E's Humboldt Bay GTCC waste falls within the twenty percent range, filling one storage container while its SNF fills five containers. See PG&E I, 73 Fed. Cl. at 412. Based on a preponderance of the evidence, because the amounts of PG&E's Humboldt Bay GTCC were so small, the court finds that DOE would have picked PG&E's GTCC up at the same time as its SNF under the plus/minus twenty-percent provision of the Standard Contract.

Accordingly, the court finds that the costs PG&E incurred to store GTCC in its Humboldt Bay ISFSI were a foreseeable result of and caused by the government's partial breach of the parties' Standard Contract and that these costs can be determined to a reasonable certainty.

ii. Conclusion

The court therefore concludes that plaintiff is entitled to the full amount of \$9,534,000 in Humboldt Bay ISFSI costs, including the one-sixth amount, or \$1,589,000, representing the costs associated with the storage of GTCC.¹¹

¹¹ The government did not argue on remand for an offset of plaintiff's damages in the amount of fees owed for GTCC waste disposal, and the court does not award such an offset. In the court's view, the payment of any GTCC waste disposal fee is analogous to the utility's obligation to pay the one-time SNF disposal fee, which the Federal Circuit determined in Yankee II had not yet matured. See Yankee II, 536 F.3d at 1280-81. In addition to its discussion of the one-time disposal fee for SNF, the Federal Circuit provided some guidance regarding the costs of GTCC waste disposal: "The trial court's finding, however, does not mean that the Government

c. Private Fuel Storage Off-Site Storage Evaluation

In its original trial opinion, the court found that plaintiff PG&E was not entitled to recover costs associated with its participation in off-site storage evaluation projects including PFS and the Mescalero Project. See PG&E I, 73 Fed. Cl. at 430. The court stated, “The evidence illustrates that plaintiff entered into the highly speculative PFS venture in the early 1990s in the ordinary course of business, while it continued to be possible that DOE would perform the Standard Contract beginning on January 31, 1998.” Id. The court found that it was not the government’s breach or its anticipated breach that caused PG&E to enter these ventures, and such entry was highly speculative and uncertain. Id. The court found that “the costs associated with such speculative ventures were not foreseeable by the government at the time of the parties’ contracting, and were not the foreseeable result of the government’s failure to begin collecting the utilities’ spent fuel by January 31, 1998.” Id.

On remand, the government argued that the court’s original decision should remain undisturbed because plaintiff failed to appeal this aspect of the court’s judgment, because these costs fell outside the scope of the Federal Circuit’s mandate on remand, and because the court’s trial decision was well-supported. Def.’s Post-Trial Br. 52 & n.31; Def.’s Pretrial Br. 27. Defendant contended that the record supports the court’s prior finding that PFS was a speculative business venture. Def.’s Post-Trial Br. 54. Plaintiff argued on remand that the court’s prior finding is “no longer viable in light of the Federal Circuit’s adoption of the 1987 ACR acceptance rates.” Pl.’s Post-Trial Br. 51. According to plaintiff, the Federal Circuit expressly noted that “DOE’s timely performance of its full contractual obligations had . . . already become a distant possibility” by the time of the 1991 ACR--several years before PG&E first invested in PFS. Pl.’s Post-Trial Br. 51 (quoting PG&E II, 536 F.3d at 1291). Plaintiff contended that the government’s breach caused PG&E to explore off-site storage options, just as it did on-site options, and that

will have to bear the cost of GTCC waste disposal alone. The proper valuation of GTCC waste disposal remains open for adjudication in future proceedings once the costs of this operation are fully realized and understood.” Id. at 1279. In the case of a partial breach, as exists here, the non-breaching party has no obligation to make contract payments to the breaching party that have not yet become due. See id. at 1280. Rather, the obligations must be performed later, when they mature. Cf. id. at 1281. “Just as the utilities cannot now collect damages not yet incurred under the ongoing contract, the Government cannot prematurely claim a payment that has not become due.” Id. (citation omitted). The government would therefore not be entitled to an offset for any GTCC disposal fees at this point in time. See id. at 1280-81. The proper valuation of GTCC waste disposal and how the parties should bear the costs remain open for future adjudication. See id. at 1279.

PG&E's primary reason for participating in PFS was as an alternative to on-site SNF storage, given DOE's anticipated breach. Pl.'s Post-Trial Br. 50-51. Plaintiff argued that PG&E's PFS costs, totaling \$899,517, are therefore recoverable. Pl.'s Post-Trial Br. 51.

i. Legal Background

In a footnote to its original trial opinion, the court observed that, because it did not award any damages that predated 1998, the court did not address the government's argument that PG&E's claims for costs incurred before 1998 were barred by the statute of limitations. PG&E I, 73 Fed. Cl. at 430 n.79. In the pretrial briefing for the initial trial, the government argued that PG&E was "claiming damages in this case beginning in 1995"--including approximately \$400,000 in mitigation damages incurred in 1995--and that PG&E was limited to damages incurred as of January 1998--six years prior to the filing of plaintiff's Complaint. Defendant's Memorandum of Contentions of Fact and Law 81-82, Dkt. No. 222, May 3, 2006. On remand, the government did not raise the statute of limitations argument in relation to PG&E's claimed PFS costs. See Def.'s Post-Trial Br. 52-54; Def.'s Pretrial Br. 27-28. Because the statute of limitations is jurisdictional, the court addresses the argument here.

Section 2501 of Title 28 of the United States Code provides: "Every claim of which the United States Court of Federal Claims has jurisdiction shall be barred unless the petition thereon is filed within six years after such claim first accrues." 28 U.S.C. § 2501 (2006) (emphasis added). The six-year statute of limitations is a jurisdictional requirement and cannot be waived. John R. Sand & Gravel Co. v. United States, 552 U.S. 130, 134-35 (2008). In the pretrial briefing for the initial trial, plaintiff argued that "the statute of limitations bars claims, not damages." PG&E's Memorandum of Contentions of Fact and Law (Pl.'s Orig. Pretrial Br.) 35, Dkt. No. 188, Apr. 10, 2006. Plaintiff argued that PG&E's claim for partial breach of the Standard Contract accrued on January 31, 1998, and that until that date PG&E had no claim to assert. Id. Plaintiff further argued that PG&E satisfied the statute of limitations, 28 U.S.C. § 2501, by filing its claim within six years after its claim accrued. Pl.'s Orig. Pretrial Br. 35. The court agrees with plaintiff for the following reasons.

The nuclear utilities' claim against the government for partial breach of the Standard Contract accrued when, on January 31, 1998, the government failed to perform under the Standard Contract. See PG&E II, 536 F.3d at 1284 ("A series of cases has established that DOE has partially breached the contract by failing to begin its performance on January 31, 1998."); Ind. Mich., 422 F.3d at 1378 ("[A] cause of action accrues only when all the events have occurred that fix the defendant's alleged liability and entitle the plaintiff to institute an action." (internal quotation marks and brackets omitted) (quoting Fallini v. United States, 56 F.3d 1378, 1380 (Fed. Cir.1995))).

However, the utilities' duty to mitigate arose earlier than 1998, when the utilities had a reasonable belief that the government would not timely perform. Yankee II, 536 F.3d at 1275-76. In Indiana Michigan, the Federal Circuit held that pre-breach mitigation damages were recoverable, stating: "It is beyond debate that because the government unequivocally announced in 1994 that it would not meet its contractual obligations beginning in 1998, the utilities were in fact obligated to take mitigatory steps." 422 F.3d at 1375. In Yankee II, the Federal Circuit declined to limit recoverable mitigation expenses to those incurred after 1994 but noted that plaintiffs must still prove causation, foreseeability, and reasonableness related to pre-breach damages. 536 F.3d at 1275-76. The Yankee II court clarified the Federal Circuit's earlier statement in Indiana Michigan: "This statement, however, does not set 1994 as the earliest possible date for any duty to mitigate. Rather, this passage reveals that this court in Indiana Michigan viewed 1994 as the latest possible date for the utilities' duty to mitigate, not the earliest." Yankee II, 536 F.3d at 1275.

In PG&E II, the Federal Circuit concluded that "the linkages imposed by the 1987 Amendments presented the specter of an impending breach" and that "in its June 1988 report, DOE explained that the linkage provisions made 'operations and waste acceptance at a DOE facility significantly before 2003 unlikely.'" PG&E II, 536 F.3d at 1291 (citations omitted). The utilities likely developed a reasonable belief at least as early as 1988, based on the information cited in the Federal Circuit's opinion, that DOE would not timely perform in 1998. See id. at 1292 ("After the 1987 Amendments Act, breach became highly likely or inevitable because of the strict linkage requirements."). The utilities' duty to mitigate would therefore have arisen at least as early as 1988. See Yankee II, 536 F.3d at 1275-76. The non-breaching party's duty to mitigate may arise before performance is due, but its claim does not. See Franconia Assocs v. United States, 536 U.S. 129, 144 (2002) ("[I]f the injured party instead opts to await performance, the cause of action accrues, and the statute of limitations commences to run, from the time fixed for performance rather than from the earlier date of repudiation." (internal quotation marks omitted)). If damages were limited to the period within six years prior to the accrual of its claim, a utility would be faced with a duty to mitigate ten years before its claim accrued and a bar to recovery of any costs it incurred more than six years before claim accrual--even if it filed its claim on the very first day after the government failed to perform as required under the Standard Contract.

PG&E's claim accrued and the statute of limitations commenced to run on January 31, 1998, the date fixed for the government's performance under the Standard Contract. PG&E filed its Complaint, Dkt. No. 1, against the government in this case on January 22, 2004, within the six-year statute of limitations. PG&E's PFS costs are recoverable even though the costs were incurred more than six years before its Complaint was filed because the costs were incurred after PG&E had developed a reasonable belief that DOE would

not timely perform. See Wis. Elec. Power Co. v. United States, 90 Fed. Cl. 714, 770 (2009) (holding nuclear utility's mitigation costs dating back to 1988 recoverable when the complaint was filed in November 2000). PG&E has proven causation, foreseeability, and reasonable certainty related to the costs, as discussed below. And PG&E timely filed its Complaint within six years of the accrual of its claim for partial breach. Subsequent claims for damages will accrue at the time such damages are incurred. Ind. Mich., 422 F.3d at 1378 ("In the case of the continuing contractual obligations owed after an initial suit for partial breach has been filed, subsequent claims for future damages are considered to accrue for the purposes of the statute of limitations at the time such damages are incurred.").

Because "the most accurate picture of the parties' intent for this contract is their conduct at a time when both parties still anticipated timely and full performance of the contract," PG&E II, 536 F.3d at 1290-91, the court, on remand, asks if PG&E would have been more likely than not to explore off-site storage in 1987. From a viewpoint in the nonbreach world, the court finds it unlikely that plaintiff would have expended its time and money on off-site storage. Plaintiff had other matters to attend to--in particular, arranging for the most efficient and cost-effective pickup of its spent fuel by DOE. See supra Part II.B.2.b (segmentation of GTCC and decommissioning at Humboldt Bay) and infra Part II.B.2.d (ventilation stack removal at Humboldt Bay).

ii. Causation, Foreseeability, Reasonable Certainty

In light of the Federal Circuit's opinion, the court's original trial conclusion cannot stand: "The evidence illustrates that plaintiff entered into the highly speculative PFS venture in the early 1990s in the ordinary course of business, while it continued to be possible that DOE would perform the Standard Contract beginning on January 31, 1998." PG&E I, 73 Fed. Cl. at 430 (emphasis added). According to the Federal Circuit, in 1991, "DOE's timely performance of its full contractual obligations had, by then, already become a distant possibility." PG&E II, 536 F.3d at 1291. From a viewpoint in the breach world that the parties no longer expected DOE would timely perform under the Standard Contract when PG&E entered into the PFS venture in the early 1990s, the court determines that the costs plaintiff incurred for the evaluation of off-site storage options were caused by the government's partial breach of the Standard Contract.

PG&E participated in the Mescalero or Private Fuel Storage project as a potential alternative solution for its SNF storage needs because of its concern that DOE would not timely perform under the parties' Standard Contract. Rem. Tr. 534:11-535:25 (Womack). PG&E considered PFS to be a "viable alternative" to receive its SNF. Rem. Tr. 536:7-537:11 (Womack) (reading the second paragraph of PX 208: "PG&E's interest in the Mescalero Project is primarily based on the possibility that the project may be the only

viable alternative to the Federal Government accepting PG&E's spent nuclear fuel on a timely basis as required by the Nuclear Waste Policy Act of 1982."). Testimony established that had DOE performed at the 1987 rates beginning in 1998, PG&E would not have investigated or pursued alternative fuel storage options. Rem. Tr. 537:22-538:11 (Womack). PG&E explored off-site storage options along with on-site options such as dry cask storage and re-racking. PX 228 (1995 PG&E Management Committee Briefing Book); DX 263 (1994 High Level Waste Management Strategy Workshop document). In the early 1990s on-site dry cask storage "was not available in the higher seismic regions of California." Tr. 1012:17-1013:12 (Womack); see also PX 721 (1991 HBPP Dry Cask Storage Report), at 19 ("Dry storage of spent fuel at [Humboldt Bay] is presently not feasible."). PG&E would not have incurred costs to investigate the PFS option if it had believed that PFS was a speculative venture. Rem. Tr. 542:21-543:4 (Womack) ("I don't believe PG&E would have participated unless it believed that PFS had some reasonable likelihood of success."). The June 1995 management committee briefing materials recommended that PG&E continue its participation in PFS at least through the submittal of an NRC license application--a recommendation that was approved by PG&E's management committee. PX 228 (1995 PG&E Management Committee Briefing Book), at 5; Tr. 1038:21-1040:13, 1040:23-1041:1 (Womack) (consulting PX 228). PG&E ceased investing in PFS in the mid-1990s due primarily to concerns within the company about potential charges of environmental racism relating to PFS. Rem. Tr. 616:1-617:13 (Womack) (explaining why the PFS option was "not recommended" in DX 366 (Executive Summary Draft revised October 26, 1995), at 37).

Based on a preponderance of the credible evidence, the court finds that the costs plaintiff incurred for the evaluation of off-site storage options were both caused by the government's partial breach of the Standard Contract and foreseeable as the natural and probable result of the government's partial breach. As stated by the Restatement, "Damages are not recoverable for loss that the party in breach did not have reason to foresee as a probable result of the breach when the contract was made." Restatement (Second) of Contracts § 351(1) (1981). The particular cost of evaluation of off-site storage options by plaintiff is not the "loss" contemplated by the rule. Rather, the "loss" caused by the government's breach of the Standard Contract is plaintiff's continued need to store its spent fuel in the absence of government performance under the parties' Standard Contract. Plaintiff is "not precluded from recovery . . . to the extent that [it] has made reasonable but unsuccessful efforts to avoid loss." Ind. Mich., 422 F.3d at 1375 (quoting Restatement (Second) of Contracts § 350(2) (1981)); Yankee II, 536 F.3d at 1276 (quoting Ind. Mich., 422 F.3d at 1375). Because the evaluation of off-site storage options was reasonable, foreseeable, and caused by the government's partial breach, its ultimate success is irrelevant. See id. The parties agreed that the amount of \$899,517 represents the total costs incurred by plaintiff for the evaluation of off-site spent fuel storage options, Corr. JSR 6-7, and the court finds that these costs can be determined to a

reasonable certainty.

iii. Conclusion

The court finds that the government is liable for \$899,517 in costs incurred by plaintiff for the evaluation of off-site spent fuel storage options as a result of the government's partial breach of the parties' Standard Contract.

d. Additional Costs of Stack Removal

In its original trial opinion, the court found that PG&E was not entitled to recover the additional costs it incurred to remove the Humboldt Bay ventilation stack in 1998 while spent fuel remained in the spent fuel pool. PG&E I, 73 Fed. Cl. at 422. The court found that "PG&E chose to remove the ventilation stack in 1998 primarily for significant safety reasons." Id. As a result, the court found that the additional costs were neither the foreseeable result of, nor caused by, the government's breach of the Standard Contract. Id.

On remand, the government contended that these findings should remain undisturbed. See Def.'s Pretrial Br. 25. The government argued that "PG&E would have removed and replaced the 250-foot-high ventilation stack at [the Humboldt Bay power plant] in the non-breach world for the same significant safety and economic reasons and in the same manner that it did in the breach world." Def.'s Post-Trial Br. 47; see also Def.'s Pretrial Br. 26. Defendant asserted that PG&E failed on remand to establish that DOE's breach of the Standard Contract caused PG&E to incur the additional costs associated with removal of the Humboldt Bay ventilation stack while spent fuel remained in the spent fuel pool. Def.'s Post-Trial Br. 51. Plaintiff contended that it would not have incurred the additional costs of the stack removal if DOE had performed at the 1987 ACR acceptance rates, and that the court should therefore award the costs as damages to PG&E. Pl.'s Post-Trial Br. 45; Pl.'s Pretrial Br. 20. Plaintiff asserted that "[a]pplying the 1987 ACR acceptance rates compels a different conclusion now" because PG&E would have had to defer the stack removal for only a few months--rather than for three years as under the 1991 ACR acceptance rates--until DOE removed the spent fuel from the spent fuel pool. Pl.'s Post-Trial Br. 45-46. The parties agreed that the costs that PG&E would have incurred during the claim period to perform the Humboldt Bay stack removal in 1998 were in the amount of \$919,420.¹² Corr. JSR 6-7.

¹² Of the \$919,420 total for the additional costs of removing the ventilation stack while spent fuel remained in the spent fuel pool, \$388,446 was associated with the construction of a smaller replacement ventilation stack. Def.'s Post-Trial Br. 50-51 (citing Tr. 1588:17-22 (Willis); PX 427). The court agrees with defendant that the evidence showed that PG&E would

i. Causation, Foreseeability, Reasonable Certainty

The preponderance of the credible evidence supports defendant's position that PG&E would have removed the ventilation stack at Humboldt Bay in 1998 for safety reasons, even under the 1987 acceptance rates. The court is not persuaded by the evidence plaintiff presented on remand that PG&E would have delayed stack removal until after the SNF was removed from the spent fuel pool at Humboldt Bay, even if that delay was only a few months.

At the Humboldt Bay power plant, a 250-foot ventilation stack stood adjacent to the base of the reactor building and the spent fuel pool. Rem. Tr. 590:13-16 (Womack); Tr. 1045:25-1046:7 (Womack). On December 26, 1994, an earthquake damaged the ventilation stack, causing it to crack. PX 757, at 1; Rem. Tr. 395:3-8 (Albers). The Nuclear Regulatory Commission informed PG&E that it was concerned that another earthquake could cause the ventilation stack to collapse, Tr. 1784:16-24 (Rueger), and recommended that PG&E remove the ventilation stack, Rem. Tr. 596:5-8 (Womack), Tr. 1055:2-7 (Womack). As the court found in its original trial opinion: "Plaintiff could not have continued to maintain Humboldt Bay in SAFSTOR status without either removing the stack, on the one hand, or justifying to NRC its failure to do so, on the other." PG&E I, 73 Fed. Cl. at 422 (citing Tr. 1207:3-5 (Womack); Tr. 1784:12-24, 1789:15-1792:11 (Rueger)). As the court found at the initial trial, PG&E was concerned with the safety issue the damaged ventilation stack posed both to the public and to PG&E employees. Id. (citing Tr. 1788:23-1789:8 (Rueger)). PG&E also recognized that there was an economic aspect to the stack removal decision because of the increased cost of dismantlement should the stack collapse into the spent fuel pool and cause contamination throughout the plant. Id. (citing Tr. 1790:9-15 (Rueger)).

The court views it as unlikely that, in the nonbreach world, PG&E would have delayed removing the ventilation stack until after DOE had picked up the SNF from Humboldt Bay because by doing so, PG&E would have risked the collapse of the damaged stack while fuel was being removed from the spent fuel pool and loaded for transport. See Rem. Tr. 1406:16-1409:5 (Maret). To minimize that risk, one of two approaches could be taken--minimizing the probability of the event or occurrence or minimizing the consequences should the event occur. See Rem. Tr. 1406:19-20 (Maret) ("Risk is defined as probability of an event or an occurrence times the consequences.").

have had to construct the smaller replacement stack for decommissioning regardless of whether spent fuel remained in the spent fuel pool and that this subset of the ventilation stack removal costs was therefore not caused by DOE's breach. See Def.'s Post-Trial Br. 51 (citing Rem. Tr. 1416:11-23, 1417:3-19, 1418:8-18 (Maret)).

In this situation, the event or occurrence was another earthquake. Rem. Tr. 1407:2-13 (Maret). The probability of another earthquake occurring was beyond the control of PG&E. Id. Instead, in order to minimize the consequences of another earthquake, PG&E had to remove the ventilation stack and the attendant danger of its collapsing into the spent fuel pool or onto personnel working below. Rem. Tr. 1407:14-1409:5 (Maret). Although PG&E argued that removing the SNF from the spent fuel pool would have minimized the consequences of another earthquake, such that the removal of the ventilation stack could have been delayed, Pl.'s Post-Trial Br. 47-48, the court finds more persuasive the testimony of Mr. Maret regarding the dangers of that course of action. Removing the SNF from the spent fuel pool and loading it for transport itself would have involved increased personnel on-site, handling and transfer of fuel assemblies, and exposure of fuel casks during loading. Rem. Tr. 1407:15-1408:4 (Maret). The collapse of the ventilation stack during this period would present much greater safety hazards because the fuel would no longer be relatively protected within a building, under several feet of water, at the bottom of the spent fuel pool. Rem. Tr. 1488:1-21 (Maret). PG&E would have timed the stack removal so that the project was completed before the DOE pickup of the Humboldt Bay SNF was scheduled to occur. Rem. Tr. 1411:3-1412:4 (Maret). Even if PG&E did not finish the stack removal and replacement project until October 1998, as occurred in the breach world, two months would have remained in 1998 for PG&E to load its SNF to DOE. Rem. Tr. 1411:24-1412:4 (Maret); Tr. 1206:22-1207:10 (Womack). In the nonbreach world, PG&E may well have been able to complete the project earlier than October 1998, allowing more time for PG&E to load its SNF to DOE. See Rem. Tr. 522:23-523:25 (Womack) (explaining that, in the breach world, "the more pressing activity for PG&E [during the more than three years between the earthquake and the fall of 1998] was to stop the in-leakage of water into the reactor caisson"); Rem. Tr. 1411:3-23 (Maret) ("[As a nuclear operating company,] [y]ou would sequence the activities and the hiring and the work . . . to accomplish [the stack removal project] in a way that met that milestone. If you knew DOE was going to be there at a certain time, you would conduct business consistent with that.").

Plaintiff argued that the cost savings also would have factored into PG&E's decision to defer stack removal until after the SNF was removed from the spent fuel pool. Pl.'s Post-Trial Br. 48-49. The court finds this argument unpersuasive. While the testimony upon which plaintiff's argument relies suggested that removing the stack after the SNF had been removed would have been less expensive to PG&E than removing the stack while SNF was stored in the spent fuel pool, see Pl.'s Post-Trial Br. 48-49, the court is not persuaded that the potential cost savings would be as great as plaintiff contended, see Rem. Tr. 1490:17-1491:22 (Maret) (suggesting that PG&E would have had to design "some kind of structure or shield" that "would mitigate the potential for massive concrete and steel collapsing on to the work area where the spent fuel is being transferred," a very difficult task "compared to the relative simplicity of simply disassembling the stack and

eliminating the hazard”). Moreover, the testimony cited by plaintiff, Pl.’s Post-Trial Br. 48-49, did not support the conclusion that the potential cost savings outweighed the safety and economic risks of allowing the damaged stack to remain in place for as much as an additional year, while the fuel was removed and loaded for transport. Plaintiff’s argument for the award of this expense is inconsistent, in the court’s view, with the likely behavior of plaintiff in the nonbreach world, where it would have sought to decrease overall costs by achieving the early pickup of its Humboldt Bay spent fuel. In the nonbreach world, the presence of the stack with the attendant safety concerns could have compromised plaintiff’s claim on its early place in the acceptance queue. For example, if DOE raised safety concerns about pickup with the damaged stack in place and delayed pickup for that reason, any cost savings realized by deferring stack removal would have been more than offset by the expense of continued storage.

As the court found in the initial trial: “PG&E chose to remove the ventilation stack in 1998 primarily for significant safety reasons.” PG&E I, 73 Fed. Cl. at 422. These safety reasons remain unchanged under the 1987 acceptance rates and the court’s underlying conclusion remains unchanged on remand. Accordingly, the court finds that the cost PG&E incurred to remove the ventilation stack at Humboldt Bay in 1998 while spent fuel remained in the spent fuel pool was neither the foreseeable result of the government’s breach of the Standard Contract, nor caused by the government’s breach of the Standard Contract.

ii. Conclusion

Plaintiff is not entitled to the \$919,420 in additional costs it incurred to remove the ventilation stack at Humboldt Bay while spent fuel remained in the spent fuel pool.

e. Internal and External Legal Costs

For the first time on remand, PG&E claimed internal and external legal costs associated with various SNF storage projects it undertook as a result of DOE’s breach. Pl.’s Post-Trial Br. 56-59; Pl.’s Pretrial Br. 26. PG&E stated that the legal costs were compiled and maintained by its legal department, separate from the costs submitted to the court in the initial trial, which were compiled and maintained under PG&E’s main accounting system. Pl.’s Pretrial Br. 26. PG&E only became aware of the separate legal costs when preparing for remand proceedings. Pl.’s Pretrial Br. 26. The total of \$1,418,816.75 included \$664,353.11 for outside counsel and \$754,463.64 for in-house legal costs. See Pl.’s Post-Trial Br. 57, 59; PX 753 (outside counsel costs); PX 754 (in-house counsel costs). Plaintiff asserted that “[t]he purpose of the remand is to determine the damages due PG&E, and these legal costs are part of the damages due.” Pl.’s Pretrial Br. 26. Plaintiff argued that because “[t]he legal costs PG&E claims are part of the

damages it incurred due to DOE's breach" and they are "squarely within the scope" of the Federal Circuit's mandate, the court should award PG&E these legal costs as damages. Pl.'s Post-Trial Br. 59.

The government argued that PG&E's legal costs are not recoverable on remand. Def.'s Post-Trial Br. 55; Def.'s Pretrial Br. 29. The government contended that the mandate rule precludes PG&E from raising its legal costs claim for the first time on remand or, alternatively, that the claim for legal costs constitutes an entirely new claim that is completely or partially barred by the statute of limitations and rules precluding "claim splitting." Def.'s Post-Trial Br. 55. As the government stated, it is undisputed that PG&E did not claim the legal costs at the initial trial, the court did not award them, and PG&E did not appeal this issue, nor did PG&E seek leave to amend its statement of claimed damages on remand to claim these damages formally. Def.'s Pretrial Br. 29. The government argued that the legal costs were "necessarily implicated in the [c]ourt's original damages opinion – a decision which decided PG&E's spent fuel storage damages claims through 2004" and because PG&E failed to raise its claim for legal costs in the initial trial, it has waived its rights and may not raise the legal costs claim on remand. Id. Alternatively, the government argued, the statute of limitations bars recovery of legal costs incurred more than six years prior to the date of filing of an amended complaint asserting the claim for legal costs--and PG&E has not filed an amended complaint to assert a claim for legal costs. Id. On the merits, the government also challenged PG&E's establishment of causation and foreseeability related to the legal costs. Def.'s Post-Trial Br. 55-57; Def.'s Pretrial Br. 30.

i. The Issue on Remand Under the Mandate Rule

The court first considers whether the legal costs are recoverable under the mandate rule. See supra, Part II.B.2.a.i (discussing the mandate rule). The Federal Circuit instructed the court on remand to calculate damages on the basis of the 1987 acceptance rates. PG&E II, 536 F.3d at 1292. The Federal Circuit stated in its remand opinion:

[T]his court concludes that the Standard Contract required DOE to accept SNF/HLW in accordance with the 1987 AC[S] process. On remand, the Court of Federal Claims will have the opportunity to calculate the damages owed to PG&E for DOE's partial breach of the Standard Contract on this basis.

Id. (emphasis added). The court interprets the mandate on remand to have directed the court to calculate of damages affected by the change in the acceptance rate and the change in the time period--from 1991 to 1987--in which the parties' behavior and intentions are examined. The court does not view the appellate mandate as affording plaintiff an opportunity to present evidence of legal costs PG&E incurred that plaintiff

could have--and should have--discovered through reasonable diligence and presented at the initial trial. In the original trial opinion, the court determined whether and in what amount PG&E was entitled to damages related to the licensing and construction of an ISFSI at Humboldt Bay, PG&E I, 73 Fed. Cl. at 417-21; the licensing and construction of an ISFSI at Diablo Canyon, id. at 425-26; the licensing and construction of temporary racks at Diablo Canyon, id. at 427-28; and the total damages to which PG&E was entitled, id. at 432. Plaintiff did not include among the figures it presented to the court at trial the internal and external legal costs associated with these projects. Plaintiff acknowledges that it would not have been able to recover these legal costs had the Federal Circuit affirmed the court's decision rather than remanding. Rem. Tr. 948:15-19 (argument of Mr. Stouck) ("[I]f the court had been affirmed we would be out. It is a fact. We didn't submit those costs the last time."). However, plaintiff argues that the fact that "PG&E was 'late' in presenting these claims is not a legal argument precluding recovery." Pl.'s Post-Trial Br. 59; see also Rem. Tr. 949:7-16 (argument of Mr. Stouck) ("[T]here is no reason [the legal costs] shouldn't be awarded . . . other than as some kind of a penalty for the company's not having claimed them previously. That is . . . not a legal reason."). In the court's view, the amount of the legal costs, as a subset of the damages related to the Humboldt Bay ISFSI and Diablo Canyon ISFSI and re-racking, was an issue within the scope of the initial judgment of the court. See Tronzo v. Biomet, Inc., 236 F.3d 1342, 1348 (Fed. Cir. 2001). Because the Federal Circuit instructed the court on remand to calculate damages on the basis "that the Standard Contract required DOE to accept SNF/HLW in accordance with the 1987 AC[S] process," PG&E II, 536 F.3d at 1292, the court does not view the appellate mandate as affording plaintiff an opportunity to present evidence of legal costs for the first time on remand.

The Federal Circuit has explained that the law of the case doctrine and the mandate rule are "prudential doctrines that direct a court's discretion, but do not necessarily limit a court's power" and that "it may be appropriate in some circumstances for a court to revisit an issue that would otherwise be deemed waived and beyond the scope of an appellate mandate." Tronzo, 236 F.3d at 1349. However, the Federal Circuit has stated that such circumstances "must be exceptional . . . [o]therwise, the underlying rationales for the doctrines of law of the case and the mandate rule would be thwarted." Id. (citation omitted). The rationales for these doctrines include: "the need for (and the litigant's right to) finality, judicial economy, the consistency of judicial decisions, the discouragement of piecemeal adjudication, and the prevention of the perverse result of allowing a litigant to be in a better position by failing to raise an issue in an initial appeal." Id. at 1349 n.3. In the court's view, these underlying rationales--most particularly "the discouragement of piecemeal adjudication"--are applicable in this case, and the circumstances surrounding the evidence of the legal costs are not so exceptional that it becomes appropriate for the court to revisit an issue that it views as beyond the scope of the appellate mandate. See id. at 1349. The fact that plaintiff discovered that its

legal costs were recorded in a separate portion of its accounting system only in preparing for remand, some three years after the initial trial, see Corr. JSR 6, does not, in the court's view, constitute a "substantial change in the evidence," outweighing the countervailing prudential considerations and warranting a reconsideration of an issue otherwise foreclosed by the appellate mandate, see Tronzo, 236 F.3d at 1349.

Further, even if the amount of the legal costs is not viewed as an issue within the scope of the initial judgment of the court, the court views the claim for legal costs as a new claim barred by the statute of limitations. Plaintiff did not amend its Complaint to include a claim for legal costs, arguing instead that the legal costs are part of its original claim filed in 2004. See Pl.'s Pretrial Br. 27. Plaintiff therefore argued that the legal costs were part of its original claim, yet also argued at the same time that the legal costs were not "implicated" in the court's prior judgment, making the mandate rule inapplicable. Pl.'s Pretrial Br. 27. The court does not agree that plaintiff can have it both ways. Plaintiff first raised the issue of its legal costs in June 2009, see Appendix to Defendant's Motion in Limine to Preclude PG&E from Presenting Evidence Related to Legal Costs on Remand, Dkt. No. 416-1, at 4-6, several months after filing its statement of damages due on remand, see Plaintiff PG&E's Statement of Damages Due, and Issues to Be Addressed, on Remand, Dkt. No. 361, filed on Feb. 20, 2009. Because plaintiff did not amend its Complaint to include the claim for legal costs, the claim for legal costs cannot be considered filed with the original Complaint in 2004 and falls outside of the six-year limitations period. See 28 U.S.C. § 2501 (2006) ("Every claim of which the United States Court of Federal Claims has jurisdiction shall be barred unless the petition thereon is filed within six years after such claim first accrues."). The claim for legal costs is therefore barred by the statute of limitations, if not barred by the mandate rule.

ii. Causation, Foreseeability, Reasonable Certainty

The decision whether to take new evidence on remand is within the trial court's discretion. Adelson v. United States, 782 F.2d 1010, 1012 (Fed. Cir. 1986). In the court's view, prudential considerations weigh against allowing litigants to present on remand new evidence of damages which could have and should have been discovered through reasonable diligence and presented at the initial trial. See Tronzo, 236 F.3d at 1349. Recognizing, however, that the interpretation of the appellate mandate is a legal question and that the Federal Circuit reviews such an interpretation de novo, Laitram, 115 F.3d at 950-51; see supra Part II.B.2.a.i (discussing the mandate rule), in the interest of judicial economy, the court accepted evidence of legal costs on remand and finds that the legal costs were caused by, and were foreseeable as a natural and probable result of, the government's breach and can be determined to a reasonable certainty.

Mr. Locke testified that the 1999-2004 in-house legal costs claimed by PG&E

consist of the time he spent as in-house counsel on legal matters relating to the federal and local licensing requirements, applications, and proceedings required for the ISFSIs at Humboldt Bay and Diablo Canyon. Rem. Tr. 880:2-891:14 (Locke); PX 754. Mr. Locke testified that he spent time on similar matters relating to the temporary racks at Diablo Canyon that served as a contingency storage solution during the delayed Diablo Canyon ISFSI licensing proceedings. Rem. Tr. 885:21-887:16 (Locke); PX 754. The parties stipulated to the calculation of the internal legal costs in the total amount of \$754,463.64. JX 2. For the Humboldt Bay license amendment, Mr. Locke's time was spent on various Coastal Commission issues and issues related to the construction of the ISFSI below ground. Rem. Tr. 882:9-883:17 (Locke).

The Diablo Canyon licensing amendment process was lengthy and extremely contentious. Rem. Tr. 889:6-892:16, 894:11-895:5 (Locke). Third parties are allowed by law to intervene in NRC proceedings, Rem. Tr. 889:10-25 (Locke), and intervenors have been involved in the Diablo Canyon licensing proceedings from the plant's inception and at all stages since, Rem. Tr. 891:15-893:4, 895:12-896:13 (Locke). Among other matters, Mr. Locke's time was spent on lengthy negotiations and proceedings, Rem. Tr. 890:7-891:14 (Locke), and on filing necessary applications and reports, Rem. Tr. 883:18-885:6 (Locke). Because of the licensing and permitting complications relating to the proposed Diablo Canyon ISFSI, PG&E decided to re-rack its Diablo Canyon facility as a contingency plan, and Mr. Locke also worked on the legal and regulatory issues associated with the re-racking. Rem. Tr. 885:21-887:16 (Locke).

PG&E also retained outside legal counsel to work on the federal and local permitting matters for Diablo Canyon. Rem. Tr. 896:14-899:3 (Locke) (testifying that PG&E would not have been able to handle the matter without the outside counsel and that hiring outside counsel was "the most cost-effective way of achieving the desired result"). Mr. Locke reviewed and approved as reasonable the outside counsel's bills. Rem. Tr. 899:4-900:21 (Locke) ("It was law department practice and requirements that I review [the outside counsel's bills] for accuracy, sufficiency, . . . and reasonableness."). The parties stipulated to the calculation of the external legal costs in the total amount of \$664,353.11. JX 2; PX 753.

The government argued that "PG&E has not established that the claimed legal costs are the direct results of DOE's delay or were foreseeable at the time of contracting, particularly with regard to the costs that PG&E incurred to intervene in the suit filed by the 'Mothers for Peace.'" Def.'s Post-Trial Br. 56 (referring to San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm'n, 449 F.3d 1016, 1020 (9th Cir. 2006)). The government argued that "PG&E's legal costs arose in response to a third party's action in challenging the NRC regarding a license" and that "PG&E's choice [to intervene] [wa]s the cause of these costs." Def.'s Post-Trial Br. 56-57. Plaintiff argued that "PG&E had a

duty to intervene to protect its interest in the NRC decision granting the Diablo Canyon ISFSI license, because PG&E was required to take reasonable mitigation efforts to pursue dry storage.” Pl.’s Reply Br. 24. Plaintiff also noted that “PG&E’s Ninth Circuit litigation costs are a small fraction of its claimed legal costs” because Mr. Locke and outside counsel were not involved in the Ninth Circuit litigation until 2004. Pl.’s Reply Br. 23.

Mr. Locke testified that intervenors were involved in every licensing proceeding related to Diablo Canyon from the initial licensing proceeding in 1977 forward. Rem. Tr. 892:3-16 (“During those [licensing] proceedings, almost without fail, in every significant proceeding we had intervenors, any group, Mothers For Peace, but also the Sierra Club, the Abalone Alliance, the governor of the State of California, sometimes even with members of the local boards and the local area.”). When the intervenors were disappointed in the results of the NRC proceeding, they would often challenge the NRC decision in the appropriate United States Court of Appeals under the Hobbs Act. Rem. Tr. 892:17-893:11 (Locke). In such an action, the disappointed intervenor group would be the petitioner, with the NRC as the respondent, and with the utility usually seeking to intervene. Rem. Tr. 893:15-894:10 (Locke) (“[T]he utilities [are] the real party in interest, so they would intervene to protect their interest, to protect their licensing action in their favor. So [PG&E] would of course intervene in all of these appellate proceedings as they occurred.”). Mr. Locke testified that it is common in the industry for nuclear utilities to intervene and remain in such court proceedings in order to protect their interest. Rem. Tr. 894:4-10 (Locke). In light of the prolonged involvement of intervenor groups in Diablo Canyon licensing proceedings and the common and reasonable industry practice of nuclear utilities’ intervening in federal court proceedings as the real parties in interest, the court finds that PG&E’s legal costs in such proceedings, as well as the costs of other services provided by both in-house and outside counsel, were caused by and were the foreseeable result of the government’s breach.

The preponderance of the evidence indicates that the legal costs were incurred because of and were caused by the government’s partial breach of the parties’ Standard Contract. The court finds that the legal costs were foreseeable as a natural and probable result of the government’s breach and can be determined to a reasonable certainty in the amount of \$1,418,816.75, including \$664,353.11 for outside counsel and \$754,463.64 for in-house legal costs.

iii. Conclusion

The court concludes that the amount of the legal costs, as a subset of the damages related to the Humboldt Bay ISFSI and Diablo Canyon ISFSI and re-racking, was an issue within the scope of the initial judgment of the court. The court does not view the

appellate mandate as affording plaintiff an opportunity to present evidence of legal costs for the first time on remand. Plaintiff's claim for legal costs is therefore barred by the mandate rule or, in the alternative, the claim for legal costs, raised for the first time on remand and not included in an amended Complaint, is barred by the statute of limitations. Recognizing that the Federal Circuit may reach a different legal conclusion, the court makes factual findings that the legal costs were caused by, and were foreseeable as a natural and probable result of, the government's breach and can be determined to a reasonable certainty in the amount of \$1,418,816.75.

III. Conclusion

Based on a preponderance of the evidence, the court concludes that PG&E has proven the following damages, composed of its reasonable and foreseeable costs caused by DOE's partial breach of the Standard Contract. Accordingly, upon consideration of the evidence, testimony and argument, and for the reasons set forth above, the court orders that:

- (1) Plaintiff shall be awarded Humboldt Bay SAFSTOR costs from 2000-2004, in the amount of \$38,678,000, and Humboldt Bay SAFSTOR costs from 1999, in the amount of \$4,044,000;
- (2) Plaintiff shall be awarded Humboldt Bay ISFSI costs for SNF storage in the amount of \$7,945,000, and Humboldt Bay ISFSI costs for GTCC waste storage in the amount of \$1,589,000;
- (3) Plaintiff shall be awarded Diablo Canyon ISFSI costs in the amount of \$31,734,000;
- (4) Plaintiff shall be awarded Diablo Canyon temporary rack costs in the amount of \$2,663,807;
- (5) Plaintiff shall be awarded Diablo Canyon Storage Options study costs in the amount of \$1,451,091;
- (6) Plaintiff shall be awarded Private Fuel Storage costs in the amount of \$899,517;
- (7) Plaintiff shall not be awarded the additional costs of the Humboldt Bay stack removal in 1998, in the amount of \$919,420; and
- (8) Plaintiff shall not be awarded the internal and external legal costs that

PG&E claimed as damages for the first time on remand in this case, in the amount of \$1,418,816.75.

For the foregoing reasons, the court determines that plaintiff is entitled to \$89,004,415 in damages through December 31, 2004 due to the government's partial breach of the Standard Contract. The Clerk of Court is directed to ENTER JUDGMENT for plaintiff in that amount.

IT IS SO ORDERED.

s/ Emily C. Hewitt
EMILY C. HEWITT
Chief Judge

EVIDENCE APPENDIX

I. Introduction

On October 6, 2009, the court held a Pretrial Conference to address the parties' objections to the admission of exhibits at trial, the parties' motions in limine, and any other issues necessary to be resolved before the trial held by the court from October 15 through October 21, 2009. On October 8, 2009, the court entered an order resolving each of these issues and ordering a briefing schedule and procedure by which the parties would address the parties' use and the court's admission of deposition designations as evidence in this case. See Order of Oct. 8, 2009, Dkt. No. 426. This Evidence Appendix sets out in brief the substance of the court's orders on the parties' motions in limine and motions made during trial and addresses the parties' use and the court's admission of deposition designations in this case.

II. Motions in Limine

In the court's October 8, 2009 order, the court denied all motions in limine then before the court, stating:

For the reasons stated at the Pretrial Conference and based on the parties' briefing and argument, the court makes the following orders with respect to the motions in limine before the court: PG&E's Motion in Limine to Preclude Expert Testimony of William G. Jones, Jr. is DENIED. PG&E's Motion in Limine to Exclude Gregory A. Maret's Expert Testimony is DENIED. Defendant's Motion in Limine to Preclude PG&E from Presenting Evidence Related to Legal Costs on Remand is DENIED.

Order of Oct. 8, 2009, ¶ 10 (footnote omitted).

A. Plaintiff's Motion in Limine to Preclude Expert Testimony of William G. Jones, Jr.

Plaintiff argued that Mr. Jones's testimony should be precluded because "three of the four opinions that Mr. Jones offers in his expert report . . . are irrelevant to any disputed issue in this case, and are speculative and unhelpful to the [c]ourt." PG&E's Motion in Limine to Preclude Expert Testimony of William G. Jones, Jr. (Pl.'s Jones Mot.) 1, Dkt. No. 412, Oct. 1, 2009. Plaintiff argued that Mr. Jones's remaining opinion (his second) also appeared to be speculative and unhelpful, but because it was unclear how the government intended to use that opinion, "PG&E [could not] say the opinion should be precluded on legal grounds." Pl.'s Jones Mot. 1, 5. The opinions of Mr. Jones

at issue were: (1) “segmentation of GTCC cannot be completed for at least two years after final shutdown”; (2) “segmenting Humboldt Bay’s reactor vessel internals before the spent fuel was removed from the pool would have been more complex and costly than waiting until the spent fuel was removed”; (3) “the equivalent of a spent fuel discharge date for GTCC is when the reactor internal segmentation project has been completed”; and (4) “GTCC quantities can be equated to MTU using the site-specific fuel characteristics.” Pl.’s Jones Mot. 2, 3, 5-6 (quoting Jones Expert Report, Dkt. No. 412-2, at i (A-2)).

In response, the government argued that plaintiff’s motion to exclude “goes to the weight that PG&E believes the [c]ourt should give to Mr. Jones’s opinions” and “does not even address his qualifications or the reliability of his conclusions.” Defendant’s Response to Plaintiff’s Motion in Limine to Exclude William G. Jones’s Expert Testimony (Def.’s Jones Resp.) 1, Dkt. No. 419, Oct. 5, 2009. Defendant further argued that Mr. Jones’s testimony would assist the court in determining on remand when PG&E would have segmented its Humboldt Bay reactor internals and how and when DOE would have accepted PG&E’s Humboldt Bay GTCC waste under the 1987 ACS process. Def.’s Jones Resp. 16-17. At the pretrial conference, the government explained that the parties’ positions on whether GTCC would be fit into the acceptance queue differed and that “the government’s attempt to identify a possible discharge date and an [MTU] equivalent for GTCC waste is directly relevant to the issues that before the [c]ourt; they are just not relevant to [p]laintiff’s theory of the case, or arguments.” Pretrial Conference Transcript (Pre. Tr.) 154:11-24 (argument of Mr. Greene).

The court agreed with the government’s basic premise, stating that “we are in a non-breach world which never happened, and is now going to have to be described. And [given] that premise, not surprisingly, the parties are adducing evidence that would point to different postcard pictures of that world.” Pre. Tr. 156:6-13. In the court’s view, Mr. Jones’s testimony regarding GTCC segmentation, discharge dates and MTU-equivalents could potentially assist the court in constructing the nonbreach world. Pre. Tr. 155:21-156:23. The court pointed out that opposing counsel would be “listening carefully for what this gentleman [Mr. Jones] could and could not know about these subjects,” so that objections and cross-examination would bring to light the limitations on Mr. Jones’s knowledge. Pre. Tr. 156:20-23. For those reasons, the court denied plaintiff’s motion to exclude Mr. Jones’s testimony.

B. Plaintiff’s Motion in Limine to Exclude Gregory A. Maret’s Expert Testimony

Plaintiff argued that under Rule 702 of the Federal Rules of Evidence (FRE), expert testimony must be relevant, reliable and helpful to the trier of fact to be admissible,

and that Mr. Maret's proposed testimony was none of these. PG&E's Motion in Limine to Exclude Gregory A. Maret's Expert Testimony (Pl.'s Maret Mot.) 1, Dkt. No. 414, Oct. 1, 2009. Plaintiff further argued that Mr. Maret's opinions did not rely on any specialized knowledge and that Mr. Maret simply reviewed and interpreted other evidence in the record. Pl.'s Maret Mot. 8. The government characterized plaintiff's challenge to Mr. Maret as "go[ing] to the weight that PG&E believes the [c]ourt should give to Mr. Maret's opinions rather than to his qualification or the reliability of his conclusions." Defendant's Opposition to PG&E's Motion in Limine to Exclude Expert Testimony from Gregory A. Maret (Def.'s Maret Opp'n) 1-2, Dkt. No. 421, Oct. 5, 2009. The government argued that plaintiff challenged Mr. Maret's qualification to offer expert testimony regarding the removal of the Humboldt Bay ventilation stack "because he was not actually involved in the stack removal at Humboldt Bay," but the government argued case law makes no such requirement. Def.'s Maret Opp'n 1. The government argued that "Mr. Maret's opinion relies upon his expansive nuclear management and decision-making experience, particularly his experience in ensuring the safe operation and safe decommissioning of nuclear power plants, as well as his review of PG&E's own documents." Def.'s Maret Opp'n 9. At the pretrial conference, the government further argued, "Mr. Maret is really uniquely qualified to testify about this precise issue. . . . [H]e was at Yankee Atomic, and was the director of decommissioning when the stack [there] was taken down. . . . And so he's certainly in a position to offer testimony on the considerations that a reasonable utility would consider when taking those [stacks] down." Pre. Tr. 159:10-25 (argument of Mr. Connor).

The court decided to allow Mr. Maret to testify, with the understanding that he would be subject to thorough cross-examination and that he would be dismissed if his testimony "is not connecting with the issues as they are developing in this case." Pre. Tr. 162:4-14. With that guidance, the court denied plaintiff's motion to exclude Mr. Maret's testimony.

C. Defendant's Motion in Limine To Preclude PG&E From Presenting Evidence Related To Legal Costs On Remand

Defendant filed a motion to preclude PG&E from presenting evidence related to legal costs on remand, arguing that PG&E's claim for legal costs was barred by the mandate rule or, alternatively, represented "an entirely new claim, all or a portion of which is barred by the statute of limitations and rules precluding 'claim splitting.'" Defendant's Motion in Limine To Preclude PG&E From Presenting Evidence Related To Legal Costs On Remand 2, Dkt. No. 416, Oct. 1, 2009. At the pretrial conference, plaintiff argued that the legal costs are part of those damages that are encompassed by the mandate, which instructed that "[o]n remand the Court of Federal Claims will have the opportunity to calculate the damages owed to PG&E for partial [breach]." Pre. Tr.

165:18-166:11 (argument of Mr. Shapiro).

The court expressed its preliminary view that the legal costs were not recoverable on remand, but that, in the interest of judicial economy, the court preferred to have the evidence in the record. Pre. Tr. 163:9-164:11. The court stated:

Unless we want two years later to be sitting here again, . . . I think we should get the evidence into the record

. . . .

But I do believe that it was a matter that could have been covered in the first, in the initial trial. So that within the portion of the claim of damages, it's in the currently unamended complaint still in front of us, the damages claimed are associated with the breach. And all the damages would have been thought to have been included in the trial evidence.

If I rule as I expect to rule, again not knowing until my pen leaves the paper, but I would not rule, I would not award. But I would like, either by stipulation or by whatever testimony is necessary, I would like for the[] [legal costs] to be put into the record.

Pre. Tr. 163:9-164:11. For the reasons more particularly set out in Part II.B.2.e, the court denied defendant's motion and allowed plaintiff to present evidence of its legal costs at the remand trial.

III. Motions Made During Trial

A. Motions to Exclude Demonstrative Exhibits

1. Plaintiff's Objections to the Defendant's Proposed Demonstrative Exhibits for Mr. Jones and Mr. Maret

Plaintiff objected to the proposed demonstrative exhibits for government witness Mr. Jones as leading, argumentative or misleading. PG&E's Objections to the Defendant's Proposed Demonstrative Exhibits for Mr. Jones (Pl.'s Jones Obj.) 2, Dkt. No. 432, Oct. 18, 2009. Plaintiff argued that the demonstratives contained bullet points that simply summarized the witness's opinions and functioned as a substitute for leading questions, which are impermissible. Pl.'s Jones Obj. 1. Plaintiff asserted that it did not object to the use of such demonstratives--after the witness had already testified--to summarize the testimony provided by the witness. Pl.'s Jones Obj. 2. Plaintiff made

substantially the same argument regarding the proposed demonstrative exhibits for government witness Mr. Maret. See PG&E's Objections to the Defendant's Proposed Demonstrative Exhibits for Mr. Maret 1-2, Dkt. No. 433, Oct. 18, 2009. At the remand trial, the government argued that the demonstratives were admissible under FRE 611(a) "with regard to making interrogation and presentation effective for the ascertainment of truth." Rem. Tr. 866:16-868:3 (argument of Mr. Connor). The government was "not asking that [the demonstratives] be admitted into evidence" but rather "asking that they be used as an aid to facilitation of the evidence." Rem. Tr. 868:3-7 (argument of Mr. Connor). The government further noted that plaintiff's witness Mr. Graves had used demonstrative exhibits containing his ultimate opinions and stated: "[A]ll we are asking to do with our experts, similar to what PG&E was able to do with its experts, is to allow that expert to focus on certain demonstrative evidence to facilitate the presentation of the evidence. And we believe under the Federal Rules of Evidence, it is proper." Rem. Tr. 868:7-869:1 (argument of Mr. Connor).

The court inquired whether anything contained in the proposed demonstratives for Mr. Jones or Mr. Maret had not previously appeared in their expert reports. Rem. Tr. 869:12-14. The government responded that there may be graphics in the demonstratives that were not in the expert reports but that "the conclusion, and the analyses that are referenced in the demonstrative exhibits were adequately disclosed in the expert report, and for that reason, . . . there is no prejudice to the plaintiff." Rem. Tr. 869:15-870:8 (argument of Mr. Connor). Plaintiff clarified that it had no objection to the pictures and charts contained in the demonstratives, nor did it object to the words used in the demonstratives "if they are used as summaries after the testimony." Rem. Tr. 870:10-21 (argument of Mr. Stouck). Plaintiff believed that "it is less helpful to the [c]ourt than hearing what the witness has to say if the witness is simply led through these charts and reads his opinion from them." Rem. Tr. 870:21-25 (argument of Mr. Stouck).

The court agreed with the government's position but reminded the government that the focus should be on the testimony rather than on the demonstratives. Rem. Tr. 871:1-9. The court stated:

It is a little hard for the [c]ourt to see a very large distinction between the materials that are proposed to be used by the United States, and the materials that were used by Mr. Graves. This is maybe a little wordier, but I don't think it is largely different. And I'm going to go ahead and allow it, but keep in mind that you want me to listen to the gentleman.

Rem. Tr. 871:1-9. For those reasons, the court overruled plaintiff's objections and denied plaintiff's motions to exclude the proposed demonstrative exhibits for government witnesses Mr. Jones and Mr. Maret from presentation at the remand trial.

2. Defendant's Objection to Plaintiff's Proposed Demonstrative Exhibit for Mr. Locke

Defendant filed an objection to plaintiff's proposed demonstrative exhibit for Mr. Locke, arguing that the proposed demonstrative exhibit was untimely because notice was not given to defendant at least forty-eight hours prior to the planned date and time of use at trial in accordance with the court's order of October 8, 2009. The court did not need to address this or the additional arguments defendant made in its motion because plaintiff withdrew the demonstrative. See Rem. Tr. 689:7-690:4 (argument of Mr. Stouck) ("[T]here is no issue [with Mr. Locke] because we have withdrawn the demonstrative. . . . The[] [government] went ahead and filed a motion anyway, but we have withdrawn the demonstrative."). The court therefore considers defendant's objection and motion to be MOOT.

B. Defendant's Motion under Rule 52(c) of the Rules of the United States Court of Federal Claims for Judgment on Partial Findings

At the close of plaintiff's case and before the government began its case, defendant moved, pursuant to Rule 52(c) of the Rules of the United States Court of Federal Claims (RCFC), that judgment should be entered in favor of the government based on the evidence received into the record from plaintiff. Rem. Tr. 911:17-931:8 (argument of Ms. Donahue). Plaintiff was given an opportunity to respond, Rem. Tr. 932:1-949:23 (argument of Mr. Stouck), and defendant was given an opportunity to reply, Rem. Tr. 949:24-953:22 (argument of Ms. Donahue).

The court expressed its view on the proper consideration of a RCFC 52(c) motion in a trial such as the one before the court, stating:

I have come to view [a RCFC 52(c) motion] [i]n a trial of this length as something that I should take at the end of all of the evidence because the efficiencies that are associated with [RCFC 52(c)] are not likely to be realized. And if I jump the wrong way on it, it is very expensive for everybody.

So I'm happy to hear some argument, but my inclination simply for economy and efficiency would be to have the -- have a motion there, but to consider it only when all of the evidence is in.

Rem. Tr. 931:14-25. The court indicated at the close of trial that the court intended "to take under advisement and address the[] [pending RCFC 52(c)]

motion] in connection with the opinion.” Rem. Tr. 1571:2-13. In light of the court’s consideration of all of the evidence and opinion in this case, the court considers defendant’s RCFC 52(c) motion to be MOOT.

C. Plaintiff’s Motion to Exclude Mr. R. Larry Johnson’s Testimony Based on Rule 702 of the Federal Rules of Evidence

Mr. R. Larry Johnson testified as an expert witness for defendant. Rem. Tr. 1501:16-1559:15 (Johnson). At the conclusion of plaintiff’s cross-examination of Mr. Johnson, plaintiff moved to exclude Mr. Johnson’s testimony pursuant to FRE 702. Rem. Tr. 1559:16-20 (argument of Ms. Sklar). Plaintiff argued:

[W]hat Mr. Johnson’s opinion does requires no specialized knowledge, and it’s not a proper expert opinion. He does nothing here that anyone else could not do, which is simply to subtract [out sums from] what PG&E is claiming [as costs]. Moreover, it intrudes on the [c]ourt’s exclusive province to weigh the evidence and determine PG&E’s damages.

Rem. Tr. 1559:21-1560:20 (argument of Ms. Sklar). In response, defendant argued that plaintiff did not challenge or object to Mr. Johnson’s qualification as an expert during voir dire, nor did plaintiff file a motion in limine with respect to Mr. Johnson’s testimony. Rem. Tr. 1560:25-1561:16 (argument of Mr. Moses). Defendant further argued that “Mr. Johnson has attempted to [offer testimony ‘regarding the amount of damages in this case tied to the categories of damages in dispute’] on behalf of the government using his expertise, and he applies that accounting expertise to assist the [c]ourt in this case.” Rem. Tr. 1562:18-1563:1 (argument of Mr. Moses). The court indicated at the close of trial that the court intended “to take under advisement and address the[] [pending motion to strike the testimony of the final witness] in connection with the opinion.” Rem. Tr. 1571:2-13. Because the court did not rely on the testimony of Mr. Johnson in calculating the amount of damages to which PG&E is entitled and in reaching its opinion in this case, the court considers plaintiff’s motion to exclude Mr. Johnson’s testimony to be MOOT.

IV. Deposition Designations

A. Plaintiff’s Objections to the Proposed Testimony Designations Cited in the Government’s Remand Post-Trial Opening Brief

In an appendix to PG&E’s Remand Post-Trial Reply Brief, plaintiff objected to proposed testimony designations cited in defendant’s remand post-trial opening brief, arguing that the testimony designations were not substantively or procedurally admissible as evidence. Appendix to PG&E’s Remand Post-Trial Reply Brief Containing PG&E’s

Objections to the Proposed Testimony Designations Cited in the Government's Remand Post-Trial Opening Brief (Pl.'s App. Obj.) A1-A2, A6, Dkt. No. 454, Nov. 19, 2009. Plaintiff stated, "The government's post-trial brief cites fifty-eight different passages of designated testimony given by its own witnesses at depositions or prior trials." Pl.'s App. Obj. A2. Plaintiff argued that the designated testimony was hearsay and did not meet the rule of completeness set forth in FRE 106. Pl.'s App. Obj. A2-A5. Plaintiff further argued:

The government's counter-designation submissions and post-trial brief citations are also procedurally deficient – they make it difficult and burdensome for PG&E, much less the [c]ourt, to evaluate whether the government's "designations" are admissible because the government (1) did not correlate its counter-designations in its October 14, 15, and 21 filings to specific designations made by PG&E, and (2) did not provide any explanation then, or now, of how the government's designations are admissible under the Federal Rules of Evidence or satisfy the rule of completeness.

Pl.'s App. Obj. A6. Defendant was given an opportunity to respond to plaintiff's objections, and plaintiff was given an opportunity to reply. See Order of Dec. 2, 2009, Dkt. No. 457. Defendant responded that each of the government's designations were admissible under the rule of completeness reflected in FRE 106. Defendant's Response to Plaintiff's Objections to the Testimony Designations Cited in Defendant's Post-Trial Opening Brief (Def.'s Resp.) 2-3, Dkt. No. 455, Dec. 1, 2009. Specifically, defendant argued that plaintiff's narrow interpretation of the rule of completeness was not supported by case law--in that defendant's counter-designations were not required to be "adjacent" to plaintiff's designated testimony in the relevant transcript. Def.'s Resp. 4-6. Defendant further argued that the court's October 8, 2009 order permitted defendant to designate testimony to support its own arguments, not only testimony that specifically countered plaintiff's designations as plaintiff contended. Def.'s Resp. 6-7.

The court agrees that defendant's interpretation of the court's October 8, 2009 order regarding testimony designations is the correct one. Defendant was not restricted by the court's order to designating testimony that specifically countered plaintiff's designations. See Order of Oct. 8, 2009, ¶ 2. However, the admissibility of the testimony designations of both parties were still governed by the Federal Rules of Evidence.

The court also agrees that plaintiff's view of the rule of completeness in this context is unduly narrow--counterdesignations need not be from the same

deposition or trial day and from “adjacent” testimony to testimony designated by plaintiff, see Pl.’s App. Obj. A7-A8, so long as such counterdesignations are determined to constitute “any other part or any other writing or recorded statement which ought in fairness to be considered contemporaneously with [the writing or recorded statement or part thereof introduced by the adverse party],” Fed. R. Evid. 106. However, the court need not address plaintiff’s individual objections to defendant’s designated testimony. Because the court did not rely on either party’s testimony designations in reaching its opinion in this case, the court considers plaintiff’s objections to be MOOT.

B. Plaintiff’s Objections to Government Citations to Designated Testimony in Defendant’s Post-Trial Reply Brief

Plaintiff made similar objections to the designated testimony cited in Defendant’s Remand Post-Trial Reply Brief. See PG&E’s Objections to Government Citations to Designated Testimony in Post-Trial Reply Brief 1, Dkt. No. 456, Dec. 1, 2009 (“PG&E explained in the appendix to its post-trial reply brief . . . why the government’s supposed ‘counter’ designations are inadmissible hearsay – they are not needed to complete any of the prior deposition or trial testimony cited, or even designated by, PG&E.”). As explained above, because the court did not rely on either party’s testimony designations in reaching its opinion in this case, the court considers plaintiff’s objections to be MOOT.